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**REPORT OF THE**  
**RAILROAD COMMISSION**  
**OF**  
**WISCONSIN**  
  
**TO THE**  
  
**LEGISLATURE**  
**ON**  
**WATER POWERS**

**Made Pursuant to Chapter 755 of the Laws of 1913.**

**MADISON, WISCONSIN**  
**1915**



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**LETTER OF TRANSMITTAL**

Madison, Wis., January 1, 1915.

**TO THE LEGISLATURE OF THE STATE OF WISCONSIN:**

We have the honor to submit herewith a report of the work thus far accomplished under the Water Power Act, Chapter 755, Laws of 1913.

Very respectfully,

**RAILROAD COMMISSION OF WISCONSIN.**

**JOHN H. ROEMER,  
HALFORD ERICKSON,  
DAVID HARLOWE,**

*Commissioners*

**LEWIS E. GETTLE,**

*Secretary*



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## OUTLINE OF WORK

This report is divided into two parts: first, that part dealing with the various investigations concerning the construction and maintenance of dams and other obstructions in navigable waters of the state; and second, that part dealing with the collection of stream flow data.

Pursuant to the provisions of this act an agreement was entered into in November, 1913, between the Railroad Commission and the United States Geological Survey whereby the collection of stream flow data should be carried on as a coöperative measure. The United States Geological Survey agreed to pay a part of the expense of installing and maintaining gaging stations and publishing records. Accordingly, a district engineer of the Survey was detailed to this work, with headquarters at Madison, and he and his assistants have coöperated with the engineering staff of this Commission in establishing gaging stations, conducting stream measurements and collecting the various types of data described in this report.

A very thorough investigation of all available records of stream flow made prior to the establishment of gaging stations under this act has been conducted and the data thus obtained, together with the results secured since the stations were established, are published herein. The report further contains a complete gazetteer of the rivers of Wisconsin.

Pursuant to the provisions of this act requiring an investigation of all existing dams and franchises, there is submitted with this report a complete list of franchises granted by legislative acts, arranged by counties. This list gives a brief description of the provisions of each franchise with the reference to the act under which the franchise was granted.

For the purpose of investigating existing dams as required by this act, the state was divided into five districts or drainage basins: namely, the Mississippi river basin, the Wisconsin river basin, the Lake Superior basin, the Lake Michigan basin and the Rock river basin. Field work connected with the examination of dams has been practically completed in the Mississippi river basin, the Wisconsin river basin and the Lake Superior basin,

with a small amount of work done in the other two basins. This remaining territory will be covered and these investigations completed during the coming season.

The total amount spent by the Railroad Commission in this investigation from July 1, 1913, to September 30, 1914, is \$20,613.53, of which \$9,492.55 was expended in installing and maintaining gaging stations and other investigations relative to the collection of stream flow data; and \$11,120.98, was spent in investigations connected with the construction, maintenance and operation of dams.

The amount spent by the United States Geological Survey, by the United States Indian Service and by various private individuals will be found in that part of the report relating to the hydrometric investigations.



## PART I

### **Investigations Relating To The Construction, Maintenance and Operation of Dams and Other Obstructions In Navigable Waters Inspection of Plans**

Each application made to the Railroad Commission for a franchise or permit to build or rebuild a dam across any navigable stream must be accompanied by complete plans and specifications for the structure. These plans are carefully checked for stability of structure and flood capacity. If found satisfactory they are approved, one copy being sent to the applicant and one retained in the Commission's file. If not found satisfactory the applicant is required to make necessary changes in his design to satisfy the Commission that the structure will be in all respects capable of serving its purpose. In checking such plans it is necessary to make a thorough examination of the stresses in the various members, including foundation, due to the water, wind and ice pressure. Investigation of the drainage area above the dam is made to determine the necessary flood capacity. This investigation involves the topographical as well as geological structure of this area. Usually these investigations require a visit to the site of the dam before construction is commenced, with one or more visits during the course of construction and a final inspection before the dam is approved for operation.

### **BENCH MARKS**

At the various points under investigation by the Commission where dams are involved bench marks are established at or near the site and so located that likelihood of disturbance is a minimum. These bench marks consist of an aluminum bronze tablet set in a concrete pier which is usually constructed by a representative of the Commission. These piers are of a sufficient depth to insure stability of the bench marks. Two such bench marks are established at each dam or site, one usually projecting some distance above the ground in order that

it may readily be found and the other, located some distance from this, is concealed under the surface. These bench marks are located with respect to some known object and levels run from them to various points on the dam. These bench marks will be referred to the bench marks of the United States Geological Survey when such are available within a reasonable distance.

## COMPLAINTS AND PETITIONS

Numerous complaints are received from time to time concerning the height of water maintained by owners of dams as well as complaints of damages resulting from high water or from alleged improperly constructed dams. These complaints usually involve rather extensive investigations as to the nature of the complaint or damages resulting and the rights and interests of various parties. Cases involving alleged unlawful height of dams resulting in damage to riparian owners usually require surveys of the dam site, the pond and all lands affected by the flowage of the dam. In addition it is necessary to investigate rainfall and runoff conditions as well as the adequacy of the dam with respect to strength and flood capacity. Examinations are made of the shoreline above the dam, if possible, at various stages of water, to determine the effect of high water, waves and ice upon the banks and improvements. Investigation of the legal rights of the owners and the riparian owners must also be conducted, as well as a study of the uses to which the dam is put and the effect upon such uses which may result from an order fixing within certain limits the head of water that may be maintained at the dam.

Following is a short statement of formal cases which have been brought before this Commission up to December 1, 1914, with a short description of the nature of the investigation made and the status of the case:

**Height of Rest Lake Dam,  
Chippewa & Flambeau Improvement Co.,  
Vilas County — November 1912**

Under chapter 640, laws of 1911, the Chippewa & Flambeau Improvement Company obtained a charter to maintain a series of reservoirs, one of which is controlled by the Rest Lake dam in the town of Flambeau, Vilas county.

This dam was originally used for logging purposes. There are some sixty miles of shorelines on the various lakes and thoroughfares affected by the water above this dam. On these shores are situated numerous summer resorts and summer homes, the owners of which petitioned that the maximum and minimum levels of these lakes be so regulated as to cause a minimum amount of damage to their property and other interests.

The Improvement Company requested as wide a range of variation as possible in order that the best use might be made of the reservoirs for storage and power purposes.

Several hearings were held, and extensive investigations made, extending over a considerable period of time, after which the Commission issued an order fixing the minimum and maximum stages of water on the Rest Lake chain of lakes.

Standard bench marks were established at the dam.

**Obstructions to Navigation in Rock River,  
Janesville — June 1913**

An investigation to determine the extent of obstructions to navigation in the Rock river, in the city of Janesville, was made on petition of certain citizens of Janesville.

Soundings were taken to determine the location of sandbars, if any existed. Bridge piers, foundations, and accumulation of debris in the river were also located.

A hearing was held on this matter, and the Commission reported to the governor that obstructions to navigation existed in said Rock river.

**Horicon Marsh Drainage,  
Horicon and Mayville — August 1913**

On complaint of certain freeholders, taxpayers and residents in Dodge county, and the cities of Horicon and Mayville, who allege that certain dredging operations in the Rock river through the city of Horicon and vicinity have caused the water in this stream to become stagnant, an investigation was made by the Commission. The city of Horicon passed a drainage ordinance, granting the right to a certain drainage company to straighten, deepen and maintain the channel of the Rock river through the city of Horicon. This ordinance was objected to on the part of the petitioners, who claim that the dredging company had no legal right to continue the operations of dredging. A hearing was held by the Commission and after all evidence was submitted the case was dismissed.

**Obstruction to Navigation, Beaver Dam Creek,  
City of Beaver Dam — September 1913**

Upon petition, the Railroad Commission investigated obstructions to navigation existing in Beaver Dam creek in the city of Beaver Dam.

It was found that there are a number of piers used as building foundations located in the creek from ten to fifty feet from shore, while several buildings project a considerable distance out over the water. One of these buildings which extends the entire distance across the river is not over three feet above the surface of the water, and in times of freshets the water comes very close to the floor of this building.

Two hearings were held in the city of Beaver Dam, and the Commission's findings have been submitted to the governor.

**Safety of Dams, Wisconsin River  
Tomahawk and Above, November 1913**

Upon petition, the Railroad Commission made an investigation of the various dams on the Wisconsin river, at Tomahawk and above, to determine if said dams were safe and capable of carrying off floods which occur in that vicinity. In order to make an intelligent report on this matter it was necessary to make a rather complete study of all features of the drainage area affecting the flow of water through these dams in addition to an exhaustive study of rainfall and runoff records.

It is believed that there is no urgent need of action in this matter.

**New Richmond Roller Mills,  
Application for Franchise for Dam,  
Apple River — November 1913**

**C. W. Arnquist, J. M. Arnquist and Kate Tolien,  
Application for Franchise for Dam,  
Apple River — December 1913**

The New Richmond Roller Mills Company, a Wisconsin corporation, filed with the Commission an application "for franchise to construct and maintain a dam and power house to develop hydro-electric power not in excess of 250 horsepower" on the Apple river in St. Croix county, Wis.

C. W. Arnquist, J. M. Arnquist and Kate Tolien objected to the granting of this franchise to the roller mills and in turn petitioned for a franchise to construct a possibly conflicting dam farther downstream. The New Richmond Roller Mills Company entered objection to this latter petition. As the same parties were interested in both cases, the two were heard together.

Engineering investigations have been made and a decision will be rendered in this case in the near future.

**Northwestern Iron Company,  
Regulation and Control of Level  
and Flow of Water of Rock River,  
Mayville — February 1914**

The Northwestern Iron Company, a Wisconsin corporation, owns and operates two dams in the city of Mayville.

It is alleged by certain citizens of Mayville that the lower dam of the Northwestern Iron Company has not sufficient flood capacity, and due to lack of opportunity for ice to pass over and through this dam in the spring, ice jams are formed which cause serious floods within said city of Mayville. It is also alleged that this dam has not sufficient gate capacity to carry off water in flood time without seriously damaging the property of the riparian owners in the city of Mayville.

On these grounds the petitioners requested an investigation by the Commission.

Investigations have been completed and hearings held by the Commission. A decision will be made in the near future.

**Approval of Plans,  
Burkhardt Milling & Electric Co., Willow River,  
Burkhardt—March 1914**

Plans were submitted for a reinforced concrete hollow arch dam, to be constructed in Willow river, to replace a wooden dam located some distance upstream. Plans called for a dam forty feet in height. This would give a working head at the power plant of ninety-five feet. The site was visited and plans examined after which certain specified changes were recommended in the interest of safety and stability. However, as the company failed to make application for a franchise as required by law, the plans were not approved. Later complaint was made to the governor by riparian owners that the stream was about to be obstructed, and on request of the governor an investigation was made by the Commission which developed the fact that the stream was being obstructed by the construction of this dam without a franchise, whereupon the facts of the case were laid before the governor.

**Centralia Pulp and Waterpower Company, South Side Dam,  
Grand Rapids—April 1914**

The dam owned and operated by the Centralia Pulp & Waterpower Company of Grand Rapids, prior to its reconstruction was a timber dam with a timber crib spillway. It is located about two miles south of Grand Rapids on the Wisconsin river.

Plans for a new dam to be constructed in place of part of the old timber structure were submitted to the Railroad Commission for approval. The new construction is a reinforced concrete dam thirteen feet in height, equipped with eleven electrically operated tainter gates. Plans for this dam were approved.

**Approval of Plans for Dam,  
Poynette — April 1914**

The village of Poynette submitted for the approval of the Commission plans for a reinforced concrete dam with a head of about twelve feet, to create a pond, to be used for park purposes, and for the operation of a grist mill. These plans were checked and certain important changes recommended in the interest of stability and safety. These recommendations having been adopted by the village, the plans were approved and the dam built accordingly. The masonry construction has been inspected by the Commission, but final inspection awaits completion of the earthen embankments.

Bench marks have been established at the dam.

**Browntown Dam, Level of Water,  
Browntown — May 1914**

Under petition of certain riparian owners along Skinner creek an investigation was made of the flowage conditions above the Browntown dam in the village of Browntown. Skinner creek is a branch of the Pecatonica river.

It was alleged by the petitioners that on account of the dam being maintained at an unlawful height, large tracts of land are flooded, causing excessive damage to the property of the various riparian owners aforementioned.

The investigation consisted of a survey of the dam to determine the head maintained, and also a survey of the pond and the land affected. Several hearings were held in this matter after which additional investigations were found necessary. Another hearing is requested by the petitioners.

**Greenwood Dam, Washout,  
Black River — June 1914**

An investigation was made of flood conditions on the Black river at Black River Falls and above, which caused the failure of the Greenwood and Hemlock dams. Recommendations were made in the interest of safety and stability which should be followed when these dams are rebuilt.

**Shoto Dam, Washout, West Twin River,  
Manitowoc County — June 1914**

Upon petition by the town board of the town of Shoto, the Commission held a hearing and investigated the conditions surrounding the failure of this dam which occurred in June, 1914.

If this dam is rebuilt the Commission will probably require that plans be submitted for approval. They will then be investigated for stability and flood flow capacity.

**Wisconsin-Minnesota Light & Power Co.,  
Levels to be Maintained in Bear Lake,  
Haugen — July 1914**

Bear Lake is located in Barron and Washburn counties. A dam is being maintained at the outlet of this lake for the purpose of creating storage for regulating the flow of water in the Chippewa river.

It is alleged by certain land owners along the shores of Bear Lake and others interested in the matter that this dam is at the present time being maintained at an unlawful height and the petitioners request that the Commission investigate the matter and determine if such dam is causing serious damage to property abutting on the lake, and also if said dam is being maintained at an unlawful height.

A hearing was held in this matter by the Railroad Commission in the city of Rice Lake, but the investigation is not yet complete.

**Grantsburg Dam,  
Application for Franchise, July 1914**

Upon application of Francis S. Stewart et al. to erect a dam on Wood river in Burnett county to operate a paint factory, an investigation was made.

Objection was raised by certain residents of Grantsburg to allowing the Stewart people to build a dam, as it would destroy a dam site owned by the village.

All necessary investigations have been completed but the franchise is being withheld, pending the outcome of negotiations between the village of Grantsburg and Mr. Stewart.

**Level of Water on Long Lake,  
Town of Long Lake, Washburn County — July 1914**

Application was made by the Long Lake Improvement Association for a charter to maintain a dam at the outlet of Long Lake, in the town of Long Lake, in Washburn county, and the Commission petitioned to establish a high and low water limit to be maintained in this lake. An investigation was made and a hearing held by the Commission relative to this matter. A decision will be made in the near future.

**Level of Water in Lake Wingra,  
City of Madison — August 1914**

Complaint was received by the Commission that the level of water in Lake Wingra had been lowered, due to certain dredging operations. Surveys and investigations appear to indicate that the lake on October 17, 1914, was 2.26 feet lower than in the summer of 1905, when the elevation was taken by the United States Geological Survey. This was before dredging was done. Further investigations show that the creek leading from Lake Wingra to Lake Monona has been dredged deeper, and that in order to maintain the original level of the water in Lake Wingra, a lock was built. The low level of the lake was found to be largely due to the leaky condition of this lock.

**Level of Water in Fisher Lake,  
Turtle River, Near Mercer — August 1914**

Upon petition by the state forester an investigation was made to determine the extent of the damages to state and other lands resulting from back-water caused by the maintenance of the Fisher Lake dam. This dam is located on Turtle river in the town of Presque Isle, about eight miles northeast of Mercer. It is used to create a pond from which logs are loaded on flat cars. The investigation included an examination of the shoreline conditions of Fisher Lake, Turtle river between Fisher Lake and the dam, and the islands in Fisher Lake. A hearing was held before the Commission but no final disposition of the case was made.

**Beloit Water Power Company,  
Level of Water in Rock River — August 1914**

On petition of certain riparian owners on the Rock river above the dam of the Beloit Water Power Company, an investigation was made by the Commission. It was alleged by the petitioners that said dam was being maintained at an unlawful height and should be lowered so as to cause less damage to land farther upstream. A hearing was held and investigations made, but a decision has not yet been reached.

**Jackson Milling Company Dam, Flowage,  
Stevens Point — September 1914**

On petition of certain riparian owners along the Wisconsin river, a hearing was held by the Railroad Commission relative to flowage conditions on the Wisconsin river above the Jackson Milling Company's dam in the city of Stevens Point, and the head to be maintained at said dam. The necessary investigations have not yet been completed.

Bench marks have been established near the dam.



**Wisconsin River Power Company,  
Prairie du Sac — October 1914**

The Wisconsin River Power Company has about completed the construction of a dam on the Wisconsin river at Prairie du Sac. This dam is a reinforced concrete dam, about 1,000 feet long, equipped with a lock and supplied with tainter gates. A charter was granted by the legislature to maintain a dam at this place. Application was made to the Commission to have the restrictions to height removed and new limitations placed upon the height of the head to be maintained at this dam.

A hearing was held by the Railroad Commission, but as further investigation may be necessary, no decision has been made.

**Approval of Plans,  
Jackson Milling Company Dam,  
Stevens Point — November 1914**

Plans were submitted to the Railroad Commission for proposed repairs on the old dam of the Jackson Milling Company, located on the Wisconsin river, in the city of Stevens Point. These plans contemplated the replacing of a certain portion of the old dam by a new timber structure.

The plans were checked and approved by the Commission.

## **INVESTIGATION OF EXISTING DAMS**

Pursuant to the provisions of par. 3, sec. 1596-51, an investigation has been made of a large number of existing dams. The state is divided into five drainage basins: the Mississippi river basin, the Wisconsin river basin, the Lake Superior basin, the Lake Michigan basin and the Rock River basin. The territory embraced in each basin is shown on the map published later in this report. The territory embraced in each basin is that which drains into the river or lake represented in the name of the respective districts.

The field work connected with the examination of dams has been practically completed in three of the basins; namely, the Mississippi river basin, the Wisconsin river basin and the Lake Superior basin; also Milwaukee county in the Lake Michigan basin and Waukesha county in the Rock river basin. With the limited amount of time available it was not found practicable to complete this investigation in the remaining basins.

The actual work of investigating these dams consists largely of an investigation along the following lines: identification, historical record, descriptive, constructive and operative features. Forms were prepared to be used by



the investigators for the purpose of outlining the information desired to be obtained in connection with each dam. A copy of these blanks is attached to this report in an Appendix. In addition to the information thus obtained a general sketch was made of each dam with typical cross-sections through the spillway, gates, flumes, retaining walls, etc. Photographs were taken in most cases to show general and special features. Special attention was given to any dam or any feature of a dam which appeared to indicate inadequacy or structural weakness. Supplementing the field investigations, research was made to determine or to verify the permits under which each dam is being operated.

Following is a complete list of the dams investigated in the three districts above named, also all dams in Milwaukee and Waukesha counties; sufficient information being given in each case for general purposes and the necessary reference to enable anyone interested to obtain all details which may be desired. This list is arranged by counties in alphabetical order and the dams in each county are arranged alphabetically with respect to the local name of the dam. Under the heading of "charter recorded," in these tables, the notation "none found" does not necessarily indicate that the dam is being operated without a permit as it may have been constructed under the general mill dam act of 1840, but in these cases no information has been found on the subject.

LIST OF DAMS INVESTIGATED

ADAMS COUNTY

(Wisconsin River Basin Only)

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Adams Dam-----	Adams Milling Co.-----	Sec. 6, T. 17 N., R. 6 E. --	Wisconsin-----	Little Roche Cri-----	None found.
New Rome Dam-----	R. Davis-----	Sec. 10, T. 20 N., R. 5 E. --	Wisconsin-----	Fourteen Mile Creek-----	None found.

ASHLAND COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Clam Lake Dam (Upper)	-----	Sec. 30, T. 43 N., R. 4 W.---	Mississippi-----	West Fork, Chippewa---	None found.
Mellen Dam-----	Ashland Lt. Pwr. & St. Ry. Co.---	Sec. 30, T. 45 N., R. 2 W.---	Superior-----	Bad-----	Chap. 381, Laws of 1907.
Mellen Lighting Company Dam-----	J. F. & A. E. Pribnow-----	Sec. 6, T. 44 N., R. 2 W.---	Superior-----	Bad-----	None found.
Russell Dam-----	Henry Russell-----	Sec. 15, T. 41 N., R. 1 W.---	Mississippi-----	Butternut Creek-----	Chap. 341, Laws of 1895.
Saw Mill Dam-----	Creamery Packing Co.-----	Sec. 21, T. 41 N., R. 1 W.---	Mississippi-----	Butternut Creek-----	Chap. 341, Laws of 1895.
Shanagolden Dam-----	-----	Sec. 16, T. 42 N., R. 2 W.---	Mississippi-----	East Fork, Chippewa---	Chap. 346, Laws of 1895.
Torch Dam (Upper)-----	-----	Sec. 3, T. 42 N., R. 4 W.---	Mississippi-----	Torch-----	None found.
White River Dam-----	Ashland Lt. Pwr. & St. Ry. Co.---	Sec. 27, T. 47 N., R. 4 W.---	Superior-----	White-----	None found.

## BARRON COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Anderson's Dam	J. A. Anderson	Sec. 14, T. 32 N., R. 12 W.	Mississippi	Big Pine Creek	None found.
Bear Creek Dam	Wisconsin-Minnesota Light & Power Co.	Sec. 7 and 18, T. 36 N., R. 11 W.	Mississippi	Bear Creek	Chap. 96, Laws of 1879.
Cedar Lake Dam	Wisconsin-Minnesota Light & Power Co.	Sec. 21 and 22, T. 36 N., R. 10 W.	Mississippi	Red Cedar	Chap. 103, Laws of 1882.
Chetek Dam	Northwestern Flour Mills Co.	Sec. 30, T. 33 N., R. 10 W.	Mississippi	Chetek	Chap. 319, Laws of 1865.
City Dam	City of Barron	Sec. 28, T. 34 N., R. 12 W.	Mississippi	Yellow	Chap. 284, Laws of 1878.
Prairie Farm Dam	Prairie Farm Mfg. Co.	Sec. 21, T. 32 N., R. 13 W.	Mississippi	Hay	Chap. 144, Laws of 1882.
Taylor Dam	Taylor & Taylor	Sec. 27, T. 34 N., R. 12 W.	Mississippi	Yellow	Chap. 213, Laws of 1883.
Rice Lake Dam	Red Cedar Valley Electric Co.	Sec. 21, T. 35 N., R. 11 W.	Mississippi	Red Cedar	Chap. 325, Laws of 1864.

BAYFIELD COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Cable Dam-----	-----	Sec. 20, T. 43 N., R. 7 W.--	Mississippi----	Namakagon-----	None found.
Drummond Dam-----	-----	Sec. 28, T. 45 N., R. 7 W.--	Superior-----	White-----	None found.
Iron River Lt. & Pwr. Co. Dam.	Iron River Lt. & Pwr. Co.-----	Sec. 7, T. 47 N., R. 8 W.--	Superior-----	Iron-----	None found.
Namakagon Dam-----	American Immigration Co.-----	Sec. 8, T. 43 N., R. 6 W.--	Mississippi----	Namakagon-----	None found.
Radloff Dam-----	Radloff Brothers-----	Sec. 19, T. 43 N., R. 7 W.--	Mississippi----	Namakagon-----	None found.
Upson's Dam-----	Geo. Upson-----	Sec. 8, T. 47 N., R. 8 W.--	Superior-----	Iron-----	None found.

BUFFALO COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Brown Lee Dam.....	Mondovi Light & Power Co.....	Sec. 12, T. 24 N., R. 11 W....	Mississippi.....	Farrington Creek.....	None found.
Fisher's Mill Dam.....	Russeling Feed Mill.....	Sec. 13, T. 24 N., R. 11 W....	Mississippi.....	Beef.....	None found.
Gilmanton Dam.....	Forest & Kenyon.....	Sec. 14, T. 23 N., R. 11 W....	Mississippi.....	Elk.....	None found.
Glencove Mill Dam.....	Wm. O. Sawyer.....	Sec. 36, T. 21 N., R. 10 W....	Mississippi.....	Glencove Creek.....	None found.
Mill Dam.....	Thos. Bitzam.....	Sec. 18, T. 21 N., R. 11 W....	Mississippi.....	Little Waumandee.....	None found.
Modena Mill Dam.....	Casper Schmidlan.....	Sec. 23, T. 23 N., R. 12 W....	Mississippi.....	Brown Creek.....	None found.
Waumandee Mill Dam.....	F. E. Hauert.....	Sec. 27, T. 21 N., R. 11 W....	Mississippi.....	Big Waumandee.....	None found.

BURNETT COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Brookdale Farm Dam-----	Chas. Christopherson-----	Sec. 21, T. 38 N., R. 19 W.---	Mississippi-----	Hay Creek-----	Chap. 260, Laws of 1901.
Dahlberg Dam-----	A. O. Dahlberg-----	Sec. 26, T. 37 N., R. 18 W.---	Mississippi-----	Rice Creek-----	None found.
Hickerson Roller Mill Dam.	Hickerson Roller Mill Co.-----	Sec. 14, T. 38 N., R. 19 W.---	Mississippi-----	Wood River-----	Chap. 98, Laws of 1895.
Jacobson Dam-----	C. J. Jacobson-----	Sec. 23, T. 38 N., R. 18 W.---	Mississippi-----	Wood River-----	Chap. 41, Laws of 1881.
Trade Lake Roller Mill Dam.	Mrs. C. G. Grimb-----	Sec. 16, T. 37 N., R. 18 W.---	Mississippi-----	Trade River-----	Chap. 448, Laws of 1887.

## CHIPPEWA COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Bloomer Mill Dam-----	Bloomer Milling Co.-----	Sec. 8, T. 30 N., R. 9 W.---	Mississippi-----	Duncan Creek-----	None found.
Boon's Dam-----	Northwestern Lumber Co.-----	Sec. 23, T. 29 N., R. 5 W.---	Mississippi-----	Wolf River-----	Chap. 182, Laws of 1880.
Brunet Falls Dam-----	Brunet Falls Mfg. Co.-----	Sec. 18, T. 31 N., R. 6 W.---	Mississippi-----	Chippewa River-----	Chap. 178, Laws of 1803.
Chippewa Falls Dam-----	Wisconsin-Minnesota Light & Power Co.	Sec. 5, T. 28 N., R. 8 W.---	Mississippi-----	Chippewa River-----	Chap. 86, Laws of 1869.
Durch's Dam-----	Wm. Durch-----	Sec. 25, T. 31 N., R. 9 W.---	Mississippi-----	West Branch, Oneil Creek.	None found.
Glen Mills Dam-----	Consolidated Milling, Elevator & Power Co.	Sec. 31, T. 29 N., R. 8 W.---	Mississippi-----	Duncan Creek-----	Chap. 86, Laws of 1869.
Hanson's Dam-----	Henry L. Hanson-----	Sec. 29, T. 31 N., R. 8 W.---	Mississippi-----	Oneil Creek-----	Chap. 230, Laws of 1883.
Jim Falls Dam-----	Davis Falls Land Co.-----	Sec. 29, T. 30 N., R. 7 W.---	Mississippi-----	Chippewa River-----	Chap. 172, Laws of 1903.
Little Falls Dam-----	Wisconsin-Minnesota Light & Power Co.	Sec. 28, T. 32 N., R. 6 W.---	Mississippi-----	Chippewa River-----	Chap. 144, Laws of 1872.
Lake Hallie Dam-----	Robt. A. Lang-----	Sec. 26, T. 28 N., R. 9 W.---	Mississippi-----	Outlet of Lake Halley---	None found.
Rasmus Dam-----	Martin Rasmus-----	Sec. 36, T. 30 N., R. 9 W.---	Mississippi-----	Oneil Creek-----	None found.

CHIPPEWA COUNTY—Concluded

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded
Stanley Mill Dam.....	Northwestern Lumber Co.....	Sec. 25, T. 29 N., R. 5 W....	Mississippi.....	Wolf River.....	None found.
Star Mill Dam.....	Consolidated Milling, Elevator & Power Co.	Sec. 6, T. 28 N., R. 8 W....	Mississippi.....	Duncan Creek.....	Chap. 113. Laws of 1883; Chap. 262. Laws of 1887.
Svetlik Milling Co. Dam	Svetlik Milling Co.....	Sec. 31, T. 29 N., R. 6 W....	Mississippi.....	Yellow River.....	Chap. 286, Laws of 1907.
Tilden Dam.....	Walter Brothers.....	Sec. 24, T. 29 N., R. 9 W....	Mississippi.....	Duncan Creek.....	Chap. 113, Laws of 1883



CLARK COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Greenwood Dam-----	City of Greenwood-----	Sec. 34, T. 27 N., R. 2 W.---	Mississippi-----	Black River-----	Chap. 470, Laws of 1905.
Neillsville Dam-----	City of Neillsville-----	Sec. 10, T. 24 N., R. 2 W.---	Mississippi-----	Oneill's Creek-----	Chap. 28, Laws of 1879.
Owen Dam-----	John S. Owen Lumber Co.-----	Sec. 36, T. 29 N., R. 2 W.---	Mississippi-----	Buck Creek-----	None found.
Mill Dam-----	Humbird Milling Co.-----	Sec. 29, T. 24 N., R. 4 W.---	Mississippi-----	Hall Creek-----	None found.
Warren Dam-----	Theodore White-----	Sec. 15, T. 27 N., R. 2 W.---	Mississippi-----	Black River-----	Chap. 200, Laws of 1859.

COLUMBIA COUNTY  
(Wisconsin River Basin Only.)

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Cambria Mill Dam	J. O. Dodge & T. H. Slinger	Sec. 6, T. 12 N., R. 12 E. Sec. 5, T. 12 N., R. 12 E. Sec. 32, T. 13 N., R. 12 E.	Wisconsin	Duck Creek	Chap. 408, Laws of 1853.
Decorah Mill Dam	J. C. Niemann	Sec. 5, T. 11 N., R. 9 E.	Wisconsin	Rocky Run	None found.
Figor Mill Dam	J. D. Figor	Sec. 23, T. 12 N., R. 10 E.	Wisconsin	Duck Creek	None found.
Ingram Dam	Wilber Lewis	Sec. 20, T. 12 N., R. 11 E.	Wisconsin	Duck Creek	None found.
Lodi Mill Dam	Thomas Hackl	Sec. 27, T. 10 N., R. 8 E.	Wisconsin	Spring Creek	None found.
Okee Mill Dam	L. G. Gesell	Sec. 8, T. 10 N., R. 8 E.	Wisconsin	Spring Creek	None found.
Narrecong Mill Dam	B. Stangeway	Sec. 16, T. 10 N., R. 8 E.	Wisconsin	Spring Creek	None found.
Pardeeville Mill Dam	Fox River Milling & Power Co.	Sec. 3, T. 12 N., R. 10 E.	Michigan	Fox River	Page 142, Laws of 1848.
Poynette Lower Dam	Village of Poynette	Secs. 34 and 35, T. 11 N., R. 9 E.	Wisconsin	Rowen Creek	None found.
Kilbourn Dam	Southern Wisconsin Power Co.	Sec. 8, T. 12 N., R. 9 E.	Wisconsin	Wisconsin River	None found.
Wyocena Dam	J. H. Dooley	Secs. 15, 16, 21 and 22, T. 12 N., R. 10 E.	Wisconsin	Duck Creek	None found.

CRAWFORD COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Gays Mill Dam-----	Mrs. G. T. Atwood-----	Sec. 28, T. 10 N., R. 4 W.---	Wisconsin-----	Kickapoo-----	Chap. 7, Laws of 1880.
Peterson's Mill Dam-----	Atley Peterson Estate-----	Sec. 31, T. 11 N., R. 3 W.---	Wisconsin-----	Kickapoo-----	Chap. 103, Laws of 1880.

DANE COUNTY  
(Wisconsin River Basin Only.)

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Black Earth Dam-----	Henry Rolfs-----	Sec. 26, T. 8 N., R. 7 E.---	Wisconsin-----	Black Earth Creek-----	None found.
Cross Plains Dam-----	E. D. Hering-----	Sec. 3, T. 7 N., R. 7 E.---	Wisconsin-----	Black Earth Creek-----	None found.
Dead Lake Locks-----	City of Madison-----	Sec. 27, T. 7 N., R. 9 E.---	Rock-----	Dead Lake Creek-----	Laws of 1908.
Dunkirk Power Dam----	City of Stoughton-----	Sec. 20, T. 5 N., R. 11 E.---	Rock-----	Yahara or Catfish River	Page 34, Laws of 1843.
Mazomanie-----	Henry Kirch-----	Sec. 16, T. 8 N., R. 6 E.---	Wisconsin-----	Black Earth Creek-----	None found.
Municipal Dam-----	City of Stoughton-----	Sec. 8, T. 5 N., R. 11 E.---	Rock-----	Yahara or Catfish River	None found.
Mendota Locks-----	City of Madison-----	Sec. 12, T. 7 N., R. 9 E.---	Rock-----	Yahara or Catfish River	Page 140, Laws of 1846.

DOUGLAS COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Chase Dam-----	Minnesota Land, Log & Mfg. Co.--	Sec. 25, T. 44 N., R. 10 W.--	Mississippi----	Eau Claire River-----	None found.
Copper Mine Dam-----	Farm Land & Cattle Co.-----	Sec. 18, T. 43 N., R. 13 W.--	Mississippi----	St. Croix River-----	Chap. 446, Laws of 1889.
Dedham Dam-----	Great Northern Ry. Co.-----	Sec. 36, T. 47 N., R. 15 W.--	Superior-----	Nemadji River-----	None found.
Underhill Dam-----	Farm Land & Cattle Co.-----	Sec. 16, T. 44 N., R. 14 W.--	Mississippi----	Tamarack River-----	None found.
St. Croix Dam-----	Farm Land & Cattle Co.-----	Sec. 36, T. 44 N., R. 13 W.--	Mississippi----	St. Croix River-----	None found.
Six Mile Dam-----	Minnesota Land, Log & Mfg. Co	Sec. 1, T. 43 N., R. 11 W.--	Mississippi----	Eau Claire River-----	None found.
Ward Dam-----	Minnesota Land, Log & Mfg. Co	Sec. 33, T. 44 N., R. 10 W.--	Mississippi----	Eau Claire River-----	None found.

DUNN COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Brewery Dam -----	Jos. Neidermair -----	Secs. 21 and 28, T. 28 N., R. 13 W.	Mississippi -----	Gilbert Creek -----	None found.
Red Cedar Dam -----	Wisconsin-Minnesota Light & Power Co.	Sec. 6, T. 28 N., R. 12 W.	Mississippi -----	Red Cedar River -----	None found.
Colfax Dam -----	Carl O. Larson & Sons -----	Sec. 16, T. 29 N., R. 11 W.	Mississippi -----	Eighteen Mile Creek -----	None found.
Eau Galle Dam -----	Durand Light & Power Co. -----	Sec. 31, T. 26 N., R. 14 W.	Mississippi -----	Eau Galle River -----	None found.
Fall City Dam -----	O. W. Klatt -----	Sec. 30, T. 27 N., R. 11 W.	Mississippi -----	Mud Creek -----	None found.
Havlid Dam -----	McLaine Investment Co. -----	Sec. 34, T. 27 N., R. 13 W.	Mississippi -----	Gilbert Creek -----	None found.
Menomonie Dam -----	Wisconsin-Minnesota Light & Power Co.	Sec. 26, T. 28 N., R. 13 W.	Mississippi -----	Red Cedar River -----	Chap 36, Laws of 1861.
Rock Falls Dam -----	D. W. Andrews -----	Sec. 22, T. 11 N., R. 26 W.	Mississippi -----	Rock Creek -----	None found.
Teegarden Dam -----	Levy Teegarden -----	Sec. 1, T. 28 N., R. 14 W.	Mississippi -----	Wilson Creek -----	None found.
Wilson Creek Dam -----	Wisconsin-Minnesota Light & Power Co.	Sec. 26, T. 28 N., R. 13 W.	Mississippi -----	Wilson Creek -----	None found.

EAU CLAIRE COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Dells Dam-----	Dells Paper & Pulp Co.-----	Sec. 18, T. 27 N., R. 9 W.---	Mississippi-----	Chippewa River-----	Chap. 353. Laws of 1875; Chap. 231, Laws of 1876.
Dells Dam-----	J. Frank Clark and H. Frank Gessner.	Sec. 19, T. 26 N., R. 6 W.---	Mississippi-----	Bridge Creek-----	None found.
Flour Mill Dam-----	Wm. Arndt and Wm. Bethke-----	Sec. 4, T. 25 N., R. 6 W.---	Mississippi-----	Bridge Creek-----	None found.
Otter Creek Dam-----	Northwestern Lumber Co.-----	Sec. 27, T. 27 N., R. 9 W.---	Mississippi-----	Otter Creek-----	None found.
Planing Mill Dam-----	G. N. Hilts & Son-----	Sec. 5, T. 25 N., R. 6 W.---	Mississippi-----	Bridge Creek-----	None found.
Vogler Flour Mill Dam---	P. O. Vogler-----	Sec. 6, T. 26 N., R. 7 W.---	Mississippi-----	Fall Creek-----	None found.

GRANT COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Anderson Dam-----	J. W. Anderson-----	Sec. 25, T. 7 N., R. 4 W.---	Wisconsin-----	Green River-----	None found.
Big Platte Dam-----	Andrew Kern-----	Sec. 31, T. 4 N., R. 2 W.---	Mississippi-----	Big Platte River-----	None found.
Coleman's Dam-----	Winsell Marsh-----	Sec. 4, T. 7 N., R. 1 W.---	Wisconsin-----	Blue River-----	None found.

IRON COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter.
Fisher Lake Dam-----	John Shea-----	Sec. 4, T. 43 N., R. 4 W.---	Mississippi---	Turtle River-----	Page 60, Laws of 1895.
Saxon Dam-----	Ashland Light, Power & Street Ry. Co. and Ironwood & Bessemer Ry. & Light Co., and Gogebic & Iron County Ry. & Lt. Co.-----	Sec. 21, T. 47 N., R. 1 E.---	Superior-----	Montreal River-----	None found.
Spider Lake Dam-----	John Shea-----	Sec. 18, T. 43 N., R. 4 E.---	Mississippi---	Turtle River-----	Page 60, Laws of 1895.

## JACKSON COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Black River Falls Dam -	City of Black River Falls-----	Sec. 15, T. 21 N., R. 4 W -	Mississippi ---	Black River-----	Chap. 491, Laws of 1905:
Charter Oak Dam-----	W. R. Rogers-----	Sec. 28, T. 21 N., R. 4 W.	Mississippi ---	Squaw Creek-----	None found.
Dodge Mill Dam-----	C. A. Ridley-----	Sec. 24, T. 20 N., R. 4 W -	Mississippi ---	Robinson Creek-----	Chap. 251, Laws of 1887.
Hatfield Dam-----	Wisconsin Ry. Lt. & Pwr. Co.--	Sec. 3, T. 22 N., R. 3 W --	Mississippi ---	Black River-----	None found.
Hixton Dam-----	Chevoweth Bros-----	Sec. 16, T. 22 N., R. 5 W -	Mississippi ---	Trempealeau River----	None found.
Loesching Dam-----	Fred Loesching-----	Sec. 19, T. 21 N., R. 4 W -	Mississippi ---	Squaw Creek-----	None found.
Melrose Flouring Mill Dam	T. E. Tanner-----	Sec. 8, T. 19 N., R. 5 W --	Mississippi ---	Douglas Creek-----	None found.
Mill Dam-----	Maryland Mill Co-----	Sec. 22, T. 23 N., R. 4 W -	Mississippi ---	Hall's Creek-----	Chap. 48, Laws of 1840, Chap. 56, Laws of 1878.
Mills' Dam-----	Mills Co-----	Sec. 20, T. 20 N., R. 2 W -	Mississippi ---	Weymar Creek-----	Chap. 317, Laws of 1883.
Mill Dam-----	North Bend Milling Co-----	Sec. 29, T. 19 N., R. 6 W -	Mississippi ---	Mill Creek-----	None found.
Sechlerville Dam-----	Gay Sechler-----	Sec. 19, T. 22 N., R. 5 W -	Mississippi ---	Trempealeau River----	None found.
Mill Dam-----	Taylor Milling Co., B. Van Gordan-----	Sec. 4, T. 21 N., R. 6 W.	Mississippi ---	Trempealeau River----	None found.
Trow's Dam-----	Village of Merrillan-----	Sec. 26, T. 23 N., R. 4 W -	Mississippi ---	Hall Creek-----	None found.



JUNEAU COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Orange Dam-----	Gill & Carpenter-----	Sec. 34, T. 16 N., R. 2 E.-	Wisconsin----	Little Lemonweir River	None found.
Elroy Mill Dam-----	C. S. Huntley Co.-----	Sec. 33, T. 15 N., R. 2 E.-	Wisconsin----	Baraboo River-----	None found.
Lemonweir Dam-----	R. H. Davis & Son-----	Sec. 16, T. 15 N., R. 4 E.-	Wisconsin----	Lemonweir River-----	Chap. 335, Laws of 1857.
Mauston Dam-----	Mauston Electric Service Co.---	Sec. 7, T. 15 N., R. 4 E.--	Wisconsin----	Lemonweir River-----	Chap. 176, Laws of 1856.
Necedah Dam-----	F. M. Reid-----	Sec. 13, T. 18 N., R. 3 E.--	Wisconsin----	Yellow River-----	Laws of 1880.
Wonewoc Dam-----	Hill Bros.-----	Sec. 35, T. 14 N., R. 2 E.-	Wisconsin----	Baraboo River-----	Chap. 361, Laws of 1885.

## LA CROSSE COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Barre's Dam-----	A. R. Boitzman-----	Sec. 9, T. 16 N., R. 6 W--	Mississippi---	Irish Cooley Creek----	None found.
Big Creek Dam-----	Jos. Gilles-----	Sec. 24, T. 17 N., R. 5 W-	Mississippi---	Big Creek-----	None found.
Burns' Dam-----	Wm. Wehrs-----	Sec. 21, T. 17 N., R. 5 W-	Mississippi---	Burns' Creek-----	None found.
Casperg's Dam-----	Casperg Milling Co-----	Sec. 7, T. 17 N., R. 7 W-	Mississippi---	Half Way Creek-----	None found.
Neshonock-----	Dr. Swarthout-----	Secs. 27 & 24, T. 17 N., R. 6 W.	Mississippi---	La Crosse River-----	Chap. 177. Laws of 1853.
Oehler's Dam-----	Oehler Bros-----	Sec. 26, T. 15 N., R. 7 W-	Mississippi---	Mormon Cooley Creek----	None found.
Stevenstown Dam-----	Hendrick & Johnson-----	Sec. 13, T. 18 N., R. 7 W-	Mississippi---	Fleming Creek-----	None found.
Steensen Dam-----	Dr. Swarthout-----	Sec. 33, T. 17 N., R. 6 W-	Mississippi---	La Crosse River-----	Chap. 231, Laws of 1854.

 LANGLEADE COUNTY  
 (Wisconsin River Basin Only.)

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Deerbrook Dam-----	Citizens Brewing Co-----	Sec. 30, T. 32 N., R. 11 E-	Wisconsin----	East fork of Eau Claire River-----	None found.
Heineman Dam-----	Heineman Lumber Co-----	Sec. 28, T. 31 N., R. 10 E-	Wisconsin----	Eau Claire River-----	None found.
Ormsby Dam-----	Ormsby Land & Timber Co----	Sec. 16, T. 32 N., R. 10 E	Wisconsin----	West Fork of Eau Claire River-----	None found.

LINCOLN COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Boom Company's Dam--	Wisconsin River Boom Co-----	Sec. 9, T. 31 N., R. 6 E --	Wisconsin ----	Wisconsin River -----	None found.
Copper River Dam----- (Upper.)	Wausau Paper Mill Co-----	Sec. 36, T. 32 N., R. 4 E -	Wisconsin ----	Copper River-----	None found.
Copper River Dam----- (Lower.)	Wausau Paper Mills Co-----	Sec. 4, T. 31 N., R. 5 E --	Wisconsin ----	Copper River-----	Chap. 170, Laws of 1883.
Dells Dam-----	Prairie River Impr. Co-----	Sec. 13, T. 32 N., R. 7 E -	Wisconsin ----	Prairie River-----	Chap. 55, Laws of 1901.
Merrill Ry. & Lt. Co. Dam	Merrill Ry. & Lt. Co-----	Sec. 12, T. 31 N., R. 6 E -	Wisconsin ----	Wisconsin River-----	Chap. 118, Laws of 1874.
Paper Mill Dam-----	Prairie River Impr. & Boom Co-----	Sec. 1, T. 31 N., R. 6 E --	Wisconsin ----	Prairie River-----	March 21, 1901.
Rice Storage Dam-----	Wisconsin Valley Impr. Co-----	Sec. 4, T. 35 N., R. 6 E --	Wisconsin ----	Tomahawk River-----	Chap. 41, Laws of 1887; Sec. 1777, R. S.
Somo Locks Dam-----	W. H. Bradley-----	Sec. 27, T. 35 N., R. 5 E -	Wisconsin ----	Little Somo River ----	Chap. 398, Laws of 1889.
Spirit Falls Dam-----	W. H. Bradley & Co-----	Sec. 9, T. 34 N., R. 4 E --	Wisconsin ----	Spirit River-----	Chap. 63, Laws of 1880.
Stole Lumber Co. Dam -	Stole Lumber Co-----	Sec. 4, T. 35 N., R. 4 E --	Wisconsin ----	Big Somo River-----	Chap. 408, Laws of 1905.

LINCOLN COUNTY—Concluded

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Tannery Dam-----	Tomahawk Light, Telephone & Improvement Co-----	Sec. 28, T. 35 N., R. 6 E -	Wisconsin-----	Tomahawk River-----	Chap. 346, Laws of 1887.
Tomahawk Dam-----	Tomahawk Pulp & Paper Co--	Sec. 10, T. 34 N., R. 6 E -	Wisconsin-----	Wisconsin River-----	Chap. 12, Laws of 1887.
Tomahawk Power Co., or Kings Dam-----	Tomahawk Power Co-----	Sec. 25, T. 35 N., R. 6 E -	Wisconsin-----	Wisconsin River-----	Chap. 335, Laws of 1907.
Upper Grandfather Falls Dam-----	Grandfather Falls Co-----	Sec. 6, T. 32 N., R. 6 E - Sec. 19, 20, 29, and 30, T. 33 N., R. 6 E-----	Wisconsin-----	Wisconsin River-----	Chap. 154, Laws of 1898.

MARATHON COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Athens Dam.....	Rietbrock Land & Lumber Co.....	Sec. 31, T. 30 N., R. 4 E. --	Wisconsin --	Black Creek.....	None found.
Athens Dam.....	Rietbrock Land & Lumber Co.....	Sec. 36, T. 30 N., R. 3 E. --	Wisconsin --	Black Creek.....	None found.
Brokaw Dam.....	Wausau Paper Mills Co.....	Sec. 3, T. 29 N., R. 7 E. --	Wisconsin --	Wisconsin River.....	Chap. 118, Laws of 1887.
Kelly Dam.....	John Mauser.....	Sec. 10, T. 28 N., R. 8 E. --	Wisconsin --	Eau Claire River.....	Chap. 48, Laws of 1840.
Marathon City Dam.....	Mrs. V. Fricke.....	Sec. 6, T. 28 N., R. 6 E. --	Wisconsin --	Big Rib River.....	Feb. 9, 1870, Chap. 32.
March Dam.....	Doud & Son.....	Sec. 4, T. 27 N., R. 3 E. --	Wisconsin --	Big Eau Pleine River.....	Chap. 70, Laws of 1887.
McMillan Dam.....	B. F. McMillan & Bro.....	Sec. 17, T. 26 N., R. 3 E. --	Wisconsin --	Little Eau Claire River.....	Chap. 13, Laws of 1879.
Mosinee Dam.....	Wausau Sulphite & Fiber Co.....	Sec. 29, T. 27 N., R. 7 E. --	Wisconsin --	Wisconsin River.....	Chap. 138, Laws of 1893.
Rib Falls Dam.....	G. H. Baesemann.....	Sec. 28 and 21, T. 29 N., R. 5 E.	Wisconsin --	Big Rib River.....	Chap. 216, Laws of 1868.
Rothschild Dam.....	Marathon Paper Mills Co.....	Sec. 7, T. 28 N., R. 7 E. --	Wisconsin --	Wisconsin River.....	Chap. 96, Laws of 1893.

MARATHON COUNTY—Concluded

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Schofield Dam-----	Brooks & Ross Lumber Co.-----	Sec. 12, T. 28 N., R. 7 E. --	Wisconsin-----	Eau Claire River-----	Secs. 1 to 43, Laws of 1840.
Stratford Dam-----	R. Conners Co.-----	Sec. 30, T. 27 N., R. 4 E. --	Wisconsin-----	No Name-----	None found.
Wausau Dam-----	Wausau Street Railway Co.----- McEachron Flour Mill Co.-----	Sec. 26, T. 29 N., R. 7 E. -- Sec. 35, T. 29 N., R. 7 E. --	Wisconsin-----	Wisconsin River-----	Chap. 82, Laws of 1854.

MILWAUKEE COUNTY  
(Lake Michigan Basin.)

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Pierron Dam-----	Louis Pierron-----	Sec. 20, T. 8 N., R. 22 E. --	Michigan-----	Milwaukee River-----	Page 104, Laws of 1845.
Mansville Dam-----	H. W. Johns-Manville Co.-----	Sec. 26, T. 7 N., R. 21 E. --	Michigan-----	Menomonee River-----	Page 17, Laws of 1843.
Milwaukee Dam-----	City of Milwaukee-----	Sec. 21, T. 7 N., R. 22 E. --	Michigan-----	Milwaukee River-----	Sec. 23, Laws of 1838.
Silver Spring Dam-----	Gus. Messer-----	Sec. 30, T. 8 N., R. 22 E. --	Michigan-----	Milwaukee River-----	Page 23, Laws of 1853.
South Milwaukee Dam---	J. F. Ahrens-----	Sec. 11, T. 5 N., R. 22 E. --	Michigan-----	Oak Creek-----	Chap. 160, Laws of 1891.

MONROE COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Angelo Dam-----	O. I. Newton & Son-----	Sec. 7, T. 17 N., R. 3 W.---	Mississippi-----	La Crosse River-----	None found.
Bunnel's Dam-----	M. J. Bowler-----	Sec. 13, T. 17 N., R. 4 W.---	Mississippi-----	Beaver Creek-----	None found.
Cataract Dam-----	Scantleton & Son-----	Sec. 27, T. 19 N., R. 4 W.---	Mississippi-----	Big Creek-----	None found.
City Mills Dam-----	Bergemon Bros.-----	Sec. 23, T. 17 N., R. 4 W.---	Mississippi-----	Farmer's Valley Creek--	None found.
Gilman Dam-----	E. Genseline-----	City of Sparta-----	Mississippi-----	La Crosse River-----	None found.
Paper Mill Dam-----	O. I. Newton-----	City of Sparta-----	Mississippi-----	La Crosse River-----	None found.
Leon Dam-----	C. R. Austin-----	Sec. 11, T. 16 N., R. 4 W.---	Mississippi-----	La Crosse River-----	None found.
Vogel Dam-----	Geo. Manske-----	Sec. 5, T. 15 N., R. 1 W.---	Mississippi-----	East Branch of Kickapoo River.	None found.

# Railroad Commission Report

## ONEIDA COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Cedar Falls Dam-----	-----	Sec. 22, T. 38 N., R. 5 E. --	Wisconsin -----	Tomahawk River-----	None found.
Kelly's Dam-----	J. W. Kelly-----	Sec. 26, T. 36 N., R. 5 E. --	Wisconsin -----	Little Rice River-----	None found.
Fish Hatchery Dam-----	State of Wisconsin-----	Sec. 8, T. 39 N., R. 7 E. --	Wisconsin -----	Arbor Vitae Creek-----	None found.
Hat Rapids Dam-----	Rhineland Power Co.-----	Secs. 23 and 27, T. 36 N., R. 8 E.	Wisconsin -----	Wisconsin River-----	Chap. 239, Laws of 1903.
Hardell Dam-----	Estate of A. W. Sheldon-----	Sec. 9, T. 36 N., R. 9 E. --	Wisconsin -----	Pelican River-----	Chap. 169, Laws of 1893.
Long Lake Dam or "Burnt Rollways."	Wisconsin Valley Impr. Co.-----	Sec. 5, T. 40 N., R. 11 E. --	Wisconsin -----	Eagle River-----	Chap. 335, Laws of 1907; Chap. 361, Laws of 1909.
Minocqua Dam-----	Wisconsin Valley Impr. Co.-----	Secs. 10 and 15, T. 39 N., R. 6 E.	Wisconsin -----	Tomahawk River-----	Page 252, Laws of 1889.
Nine Mile Dam (Lower) --	Wisconsin Valley Impr. Co.-----	Sec. 4, T. 40 N., R. 11 E. --	Wisconsin -----	Nine Mile Creek-----	Chap. 335, Laws of 1907; Chap. 361, Laws of 1909.
Nine Mile Dam (Upper) --	Wisconsin Valley Impr. Co.-----	Sec. 36, T. 40 N., R. 11 E. --	Wisconsin -----	Nine Mile Creek-----	Chap. 335, Laws of 1907; Chap. 361, Laws of 1909.



ONEIDA COUNTY—Concluded

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded
Sugar Camp Dam-----	Wisconsin Valley Impr. Co.-----	Sec. 8, T. 39 N., R. 9 E. --	Wisconsin-----	Sugar Camp Creek-----	Chap. 335, Laws of 1907; Chap. 361, Laws of 1909.
Pelican Dam (South)-----	Wisconsin Valley Impr. Co.-----	Sec. 11, T. 35 N., R. 10 E. --	Wisconsin-----	South Pelican River-----	Chap. 26, Laws of 1903.
Pelican Dam (North)-----	Wisconsin Valley Impr. Co.-----	Secs. 4 and 9, T. 36 N., R. 10 E.	Wisconsin-----	North Pelican River-----	Chap. 398, Laws of 1905.
Rhineland Dam-----	Rhineland Paper Co.-----	Sec. 6, T. 36 N., R. 9 E. --	Wisconsin-----	Wisconsin River-----	Chap. 247, Laws of 1882.
Seven Mile Dam-----	Wisconsin Valley Impr. Co.-----	Sec. 11, T. 39 N., R. 11 E. --	Wisconsin-----	Seven Mile Creek-----	Chap. 335, Laws of 1907; Chap. 361, Laws of 1909.
Squirrel Lake Dam-----	Wisconsin Valley Impr. Co.-----	Sec. 30, T. 39 N., R. 5 E. --	Wisconsin-----	Squirrel River-----	Chap. 434, Laws of 1887.

PEPIN COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Darwin's Dam-----	W. V. Darwin-----	Sec. 24, T. 25 N., R. 13 W. --	Mississippi-----	Bear Creek-----	None found.
Parker's Dam-----	Jos. Parker-----	Sec. 14, T. 25 N., R. 14 W. --	Mississippi-----	Big Arkansas Creek-----	None found.

PIERCE COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Cascade Dam-----	D. Collins-----	Sec. 1, T. 27 N., R. 19 W.--	Mississippi-----	Kinnickinnic River-----	None found.
Clifton Dam-----	River Falls Power Co.-----	Sec. 18, T. 27 N., R. 19 W.--	Mississippi-----	Kinnickinnic River-----	Chap. 408, Laws of 1867.
El Paso Dam-----	Mrs. C. Jones-----	Sec. 31, T. 27 N., R. 16 W.--	Mississippi-----	Rush River-----	-----
Forest Mill Dam-----	McLaughlin Bros.-----	Sec. 21, T. 26 N., R. 18 W.--	Mississippi-----	Trimbell Creek-----	Chap. 48, Laws of 1840; Chap. 56, Laws of 1858.
Greenwood Dam-----	Geo. Fortune-----	Sec. 1, T. 27 N., R. 19 W.--	Mississippi-----	Kinnickinnic River-----	None found.
Junction Falls Dam-----	City of River Falls-----	Sec. 1, T. 27 N., R. 19 W.--	Mississippi-----	Kinnickinnic River-----	None found.
Martell Dam (Lower)-----	T. Quale-----	T. 27 N., R. 17 W.--	Mississippi-----	Rush River-----	None found.
Martell Dam (Upper)-----	H. P. Gasman-----	Sec. 11, T. 27 N., R. 17 W.--	Mississippi-----	Rush River-----	None found.
Powell Falls Dam-----	City of River Falls-----	Sec. 1, T. 27 N., R. 19 W.--	Mississippi-----	Kinnickinnic River-----	None found.
Rush River Power Dam-----	Wisconsin-Minnesota Light & Power Co.	Sec. , T. 26 N., R. 16 W.--	Mississippi-----	Rush River-----	None found.
Trimbell's Dam-----	McLaughlin Bros.-----	Sec. 20, T. 27 N., R. 18 W.--	Mississippi-----	Trimbell Creek-----	None found.

POLK COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Amery Dam-----	Northern Supply Co.-----	Sec. 33, T. 33 N., R. 16 W.---	Mississippi-----	Apple River-----	Chap. 113, Laws of 1887.
Atlas Feed Mill Dam-----	C. D. Carlson-----	Sec. 4, T. 36 N., R. 18 W.---	Mississippi-----	Trade River-----	None found.
Clam Falls Dam-----	F. S. Grimb-----	Sec. 13, T. 36 N., R. 16 W.---	Mississippi-----	South Fork, Clam River-----	Chap. 45, Laws of 1875.
Flour Mill Dam-----	Apple River Milling Co.-----	Sec. 12, T. 32 N., R. 17 W.---	Mississippi-----	Apple River-----	Chap. 376, Laws of 1868.
Grimm's Dam (old)-----	Mrs. Carl G. Grimm-----	Sec. 6, T. 37 N., R. 17 W.---	Mississippi-----	South Fork, Wood River-----	None found.
Gumpert Dam-----	W. T. Kennedy-----	Sec. 3, T. 33 N., R. 17 W.---	Mississippi-----	Balsam Branch-----	None found.
Lundee's Dam-----	Lundeen Bros.-----	Sec. 4, T. 37 N., R. 16 W.---	Mississippi-----	Knapps Brook-----	None found.
Lower Dam-----	Baker Land & Title Co.-----	Sec. 10, T. 34 N., R. 17 W.---	Mississippi-----	Balsam Branch-----	None found.
Nevers Dam-----	General Electric Co.-----	Sec. 9, T. 35 N., R. 19 W.---	Mississippi-----	St. Croix River-----	Chap. 215, Laws of 1889.
Upper Dam-----	Osceola Mill & Elevator Co.-----	Sec. 27, T. 33 N., R. 19 W.---	Mississippi-----	Osceola Creek-----	Chap. 135, Laws of 1873.

PIERCE COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Cascade Dam-----	D. Collins-----	Sec. 1, T. 27 N., R. 19 W.---	Mississippi-----	Kinnickinnic River-----	None found.
Clifton Dam-----	River Falls Power Co.-----	Sec. 18, T. 27 N., R. 19 W.---	Mississippi-----	Kinnickinnic River-----	Chap. 408, Laws of 1867.
El Paso Dam-----	Mrs. C. Jones-----	Sec. 31, T. 27 N., R. 16 W.---	Mississippi-----	Rush River-----	-----
Forest Mill Dam-----	McLaughlin Bros.-----	Sec. 21, T. 26 N., R. 18 W.---	Mississippi-----	Trimbell Creek-----	Chap. 48, Laws of 1840; Chap. 56, Laws of 1858.
Greenwood Dam-----	Geo. Fortune-----	Sec. 1, T. 27 N., R. 19 W.---	Mississippi-----	Kinnickinnic River-----	None found.
Junction Falls Dam----	City of River Falls-----	Sec. 1, T. 27 N., R. 19 W.---	Mississippi-----	Kinnickinnic River-----	None found.
Martell Dam (Lower)-----	T. Quale-----	T. 27 N., R. 17 W.---	Mississippi-----	Rush River-----	None found.
Martell Dam (Upper)-----	H. P. Gasman-----	Sec. 11, T. 27 N., R. 17 W.---	Mississippi-----	Rush River-----	None found.
Powell Falls Dam-----	City of River Falls-----	Sec. 1, T. 27 N., R. 19 W.---	Mississippi-----	Kinnickinnic River-----	None found.
Rush River Power Dam---	Wisconsin-Minnesota Light & Power Co.	Sec. , T. 26 N., R. 16 W.---	Mississippi-----	Rush River-----	None found.
Trimbell's Dam-----	McLaughlin Bros.-----	Sec. 20, T. 27 N., R. 18 W.---	Mississippi-----	Trimbell Creek-----	None found.

POLK COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Amery Dam-----	Northern Supply Co.-----	Sec. 33, T. 33 N., R. 16 W.---	Mississippi-----	Apple River-----	Chap. 113, Laws of 1887.
Atlas Feed Mill Dam----	C. D. Carlson-----	Sec. 4, T. 36 N., R. 18 W.---	Mississippi-----	Trade River-----	None found.
Clam Falls Dam-----	F. S. Grimb-----	Sec. 13, T. 36 N., R. 16 W.---	Mississippi-----	South Fork, Clam River----	Chap. 45, Laws of 1875.
Flour Mill Dam-----	Apple River Milling Co.-----	Sec. 12, T. 32 N., R. 17 W.---	Mississippi-----	Apple River-----	Chap. 376, Laws of 1868.
Grimm's Dam (old)-----	Mrs. Carl G. Grimm-----	Sec. 6, T. 37 N., R. 17 W.---	Mississippi-----	South Fork, Wood River----	None found.
Gumpert Dam-----	W. T. Kennedy -----	Sec. 3, T. 33 N., R. 17 W.---	Mississippi-----	Balsam Branch-----	None found.
Lundee's Dam-----	Lundeen Bros.-----	Sec. 4, T. 37 N., R. 16 W.---	Mississippi-----	Knapps Brook-----	None found.
Lower Dam-----	Baker Land & Title Co.-----	Sec. 10, T. 34 N., R. 17 W.---	Mississippi-----	Balsam Branch-----	None found.
Nevers Dam-----	General Electric Co.-----	Sec. 9, T. 35 N., R. 19 W.---	Mississippi-----	St. Croix River-----	Chap. 215, Laws of 1889.
Upper Dam-----	Osceola Mill & Elevator Co.-----	Sec. 27, T. 33 N., R. 19 W.---	Mississippi-----	Osceola Creek-----	Chap. 135, Laws of 1873.

POLK COUNTY—Concluded

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Lower Dam -----	Osceola Mill & Elevator Co.-----	Sec. 22, T. 33 N., R. 19 W.---	Mississippi-----	Osceola Creek-----	None found.
Hillside Dam-----	Osceola Mill & Elevator Co.-----	Sec. 30, T. 34 N., R. 19 W.---	Mississippi-----	Hillside Springs-----	None found.
Ridler Dam-----	F. G. Ridler-----	Sec. 28, T. 34 N., R. 16 W.---	Mississippi-----	Apple River-----	None found.
St. Croix Falls Dam-----	St. Croix Falls, Wis., Impr. Co.---	Sec. 19, T. 34 N., R. 19 W.---	Mississippi-----	St. Croix River-----	None found.
Wolf Creek Roller Mills-- Dam.	T. F. Monte-----	Sec. 33, T. 36 N., R. 19 W.---	Mississippi-----	Wolf Creek-----	None found.
Woolen Mill Dam-----	Winger & Winger-----	Sec. 12, T. 32 N., R. 17 W.---	Mississippi-----	Apple River-----	Chap. 254, Laws of 1885.

PORTAGE COUNTY  
(Wisconsin River Basin Only.)

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Bentley Saw Mill Dam---	A. P. Bentley-----	Sec. 8, T. 25 N., R. 9 E. --	Wisconsin -----	Big Plover River -----	None found.
Jackson Milling Co. Dam	Jackson Milling Co.-----	Secs. 31 and 32, T. 24 N., R. 8 E.	Wisconsin -----	Wisconsin River -----	Chap. 113, Laws of 1846.
Springville Roller Mill Dam.	E. H. Rossier-----	Sec. 15, T. 23 N., R. 8 E. --	Wisconsin -----	Little Plover River -----	None found.
Stevens Point Power Co. Dam.	Stevens Point Power Co.-----	Sec. 12, T. 24 N., R. 8 E. --	Wisconsin -----	Big Plover River -----	Chap. 39, Laws of 1905.
Van Order Dam-----	Arthur Van Order-----	Sec. 1, T. 27 N., R. 8 E. --	Wisconsin -----	Big Plover River -----	Chap. 158, Laws of 1907.
Whiting Plover Paper Mill Co. Dam.	Whiting Plover Paper Mill Co.---	Sec. 8, T. 23 N., R. 8 E. --	Wisconsin -----	Wisconsin River -----	Chap. 283, Laws of 1889.
Wisconsin River Paper & Pulp Co. Dam.	Wisconsin River Paper & Pulp Co.	Sec. 6, T. 23 N., R. 8 E. --	Wisconsin -----	Wisconsin River -----	Chap. 407, Laws of 1889.
Wisconsin Graphite Co. Dam.	Wisconsin Graphite Co.-----	Sec. 9, T. 23 N., R. 8 E. --	Wisconsin -----	Big Plover River -----	Chap. 261, Laws of 1901.

## PRICE COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Betsy Dam-----	Wisconsin Realty Co.-----	Sec. 8, T. 39 N., R. 1 W.---	Mississippi-----	Betsy Creek-----	None found.
Fifield Dam-----	D. C. Van Ostrand-----	Secs. 6 & 7, T. 9 N., R. 1 E.---	Mississippi-----	South Fork of Flambeau River.	None found.
Holme's Dam-----	Ogema Lumber Co.-----	Sec. 12, T. 34 N., R. 1 E.---	Mississippi-----	Stony Creek-----	None found.
Little Hay Creek Dam---	Chippewa Log & Boom Co.-----	Sec. 12, T. 40 N., R. 1 E.---	Mississippi-----	Little Hay Creek-----	None found.
Lower Dam-----	Flambeau Paper Co.-----	Sec. 25, T. 40 N., R. 1 W.---	Mississippi-----	North Fork of Flambeau River.	Chap. 320, Laws of 1899.
Lugerville Dam-----	Kneeland West Lumber Co.-----	Sec. 16, T. 38 N., R. 1 W.---	Mississippi-----	South Fork of Flambeau River.	None found.
McCormick Dam-----	Menasha Wooden Ware Co.-----	Sec. 24, T. 40 N., R. 2 W.---	Mississippi-----	Butternut Creek-----	None found.
Murray Dam-----	Flambeau Lumber Co., Menasha Wooden Ware Co.	Sec. 11, T. 37 N., R. 2 W.---	Mississippi-----	Big Elk River-----	None found.
Pike Lake Dam-----	Chippewa Log & Boom Co.-----	Sec. 22, T. 40 N., R. 3 E.---	Mississippi-----	Flambeau River-----	Page 272, Laws of 1878.
Tannery Dam-----	Kneeland Mfg. & Lumber Co.-----	Sec. 7, T. 37 N., R. 1 E.---	Mississippi-----	Big Elk River-----	None found.
Upper Dam-----	Flambeau Paper Co.-----	Sec. 13, T. 40 N., R. 1 W.---	Mississippi-----	North Fork of Flambeau River.	Chap. 320, Laws of 1899.



RUSK COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Arpin Saw Mill Dam-----	Arpin Lumber Co.-----	Sec. 30, T. 35 N., R. 7 W.---	Mississippi-----	Devil Creek-----	None found.
Hoyt Dam-----	Mississippi Logging Co.-----	Sec. 4, T. 36 N., R. 5 W.---	Mississippi-----	Thornapple River-----	Chap. 288, Laws of 1874; Chap. 375, Laws of 1876.
Ladysmith Dam-----	Menasha Woodenware Co.-----	Sec. 2, T. 34 N., R. 6 W.---	Mississippi-----	Flambeau River-----	Laws of 1901.
Port Arthur Dam-----	Menasha Paper Co.-----	Sec. 18, T. 34 N., R. 6 W.---	Mississippi-----	Flambeau River-----	Chap. 62, Laws of 1903; Chap. 123, Laws of 1907.
Shaw Dam-----	Mississippi Logging Co.-----	Sec. 10, T. 35 N., R. 6 W.---	Mississippi-----	Thornapple River-----	Chap. 288, Laws of 1874; Chap. 375, Laws of 1876.
Swift's Dam-----	C. J. & Harry Muckle-----	Sec. 21, T. 33 N., R. 8 W.---	Mississippi-----	Mississippi Rice Creek-----	Chap. 254 Laws of 1875.
Thornapple Dam-----	Menasha Paper Co.-----	Sec. 22, T. 34 N., R. 7 W.---	Mississippi-----	Flambeau River-----	None found.

RICHLAND COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Bowen Dam-----	Frank Bowen-----	Sec. 4, T. 10 N., R. 1 E. --	Wisconsin -----	Pine River -----	None found.
Camp Creek Dam-----	R. L. Currie-----	Sec. 19, T. 12 N., R. 3 W. --	Wisconsin -----	Camp Creek-----	None found.
Cazenovia Dam-----	Cazenovia Light & Power Co., Martin Mortenson.	Secs. 13, 12, 14, T. 12 N., R. 2 E.	Wisconsin -----	Little Baraboo River-----	None found.
Parfrey Dam-----	A. C. Parfrey Mfg. Co.-----	Sec. 15, T. 10 N., R. 1 E. --	Wisconsin -----	Pine River -----	None found.
Rodolf Dam-----	City of Muscoda-----	Sec. 26, T. 9 N., R. 1 W. --	Wisconsin -----	Mill Creek -----	None found.

ST. CROIX COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Apple River Falls Dam---	St. Croix Power Co.-----	Sec. 21, T. 31 N., R. 19 W.---	Mississippi-----	Apple River-----	None found.
Burkhardt Mills Dam---	Burkhardt Milling & Electric Co.--	Sec. 10, T. 29 N., R. 19 W.---	Mississippi-----	Willow River-----	Chap. 239, Laws of 1871.
Burkhardt Dam (Upper) -	Burkhardt Milling & Electric Co.--	Sec. 2, T. 29 N., R. 19 W.---	Mississippi-----	Willow River-----	None found.
Hunington Dam-----	New Richmond Roller Mills Co.---	Sec. 11, T. 31 N., R. 18 W.---	Mississippi-----	Apple River-----	Chap. 135, Laws of 1887.
McCleere Dam-----	New Richmond Roller Mills Co.---	Sec. 14, T. 31 N., R. 18 W.---	Mississippi-----	Apple River-----	None found.
New Richmond Dam-----	New Richmond Roller Mills Co.---	Sec. 36, T. 31 N., R. 18 W.---	Mississippi-----	Willow River-----	None found.
Prairie Mill Dam-----	Whitcomb Campbell Co.-----	Sec. 36, T. 28 N., R. 19 W.--- Sec. 1, T. 27 N., R. 19 W.---	Mississippi-----	Kinnickinnic River-----	None found.
Power Dam (Upper) -----	Burkhardt Milling & Electric Co.--	Sec. 8, T. 29 N., R. 20 W.---	Mississippi-----	Willow River-----	None found.
Power Dam (Lower) -----	Burkhardt Milling & Electric Co.--	Sec. 24, T. 29 N., R. 20 W.---	Mississippi-----	Willow River-----	Chap. 122, Laws of 1866.
Riverdale Dam-----	W. M. Bylby Co.-----	Sec. 31, T. 31 N., R. 18 W.---	Mississippi-----	Apple River-----	Chap. 185, Laws of 1901; Chap. 226, Laws of 1903.
Somerset Dam-----	Consumers Power Co.-----	Sec. 35, T. 31 N., R. 19 W.---	Mississippi-----	Apple River-----	Chap. 144, Laws of 1899.
Star Prairie Dam-----	H. L. Bixby-----	Sec. 12, T. 31 N., R. 18 W.---	Mississippi-----	Apple River-----	Chap. 135, Laws of 1887.

# Railroad Commission Report

## SAUK COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Black Hawk Dam	Adams & Jaeger	T. 9 N., R. 5 E.	Wisconsin	South Branch of Honey Creek.	None found.
Delton Creek Dams					
Falkenstern Dam	C. F. Falkenstern	Sec. 36, T. 12 N., R. 7 E.	Wisconsin	Leambreau Creek	None found.
Ironton Dam	F. Byrne	Sec. 4, T. 12 N., R. 3 E.	Wisconsin	Little Baraboo River	None found.
Island Wooden Co. Dam	Island Woolen Co.	Sec. 34, T. 12 N., R. 6 E.	Wisconsin	Baraboo River	None found.
Konkle's Dam	H. C. Konkle, Jr.	Sec. 36, T. 12 N., R. 7 E.	Wisconsin	Leambreau Creek	None found.
Laddes Dam	Henry Koenig Est.	Sec. 17, T. 9 N., R. 6 E.	Wisconsin	Honey Creek	Chap. 327, Laws of 1863.
La Valle Dam	J. A. Duddleston	Secs. 27 & 28, T. 13 N., R. 3 E.	Wisconsin	Baraboo River	None found.
Leland Dam	Aug. Geise	Sec. 19, T. 10 N., R. 5 E.	Wisconsin	North Branch of Honey Creek.	None found.
Linen Mill Dam	Geo. McArthur & Son	Sec. 2, T. 11 N., R. 6 E.	Wisconsin	Baraboo River	None found.
Logansville Dam	Wm. Broschans	Sec. 8, T. 11 N., R. 4 E.	Wisconsin	Narrows Creek	None found.
Oak Street Dam	Geo. McArthur & Son	Sec. 6, T. 11 N., R. 7 E.	Wisconsin	Baraboo River	None found.
Prairie Du Sac Dam	Southern Wisconsin Power Co.	Sec. 14, T. 9 N., R. 6 E.	Wisconsin	Wisconsin River	None found.

SAUK COUNTY—Concluded

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Reedsburg Dam	J. G. Heaton	Sec. 10, T. 12 N., R. 4 E.	Wisconsin	Baraboo	Chap. 58, Laws of 1856.
Schramm's Dam	Albert Schramm	Sec. 14, T. 11 N., R. 5 E.	Wisconsin	Seely Creek	None found.
Waterworks Dam	City of Baraboo	Sec. 1, T. 11 N., R. 6 E.	Wisconsin	Baraboo River	None found.
Witwen Dam	Witwen & Nold	Sec. 4, T. 9 N., R. 5 E.	Wisconsin	Honey Creek	None found.

# Railroad Commission Report

## SAWYER COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Goodrich Dam-----	Wisconsin-Minnesota Light & Power Co.	Sec. 14, T. 41 N., R. 6 W.---	Mississippi-----	West Fork of Chippewa River	Chap. 405, Laws of 1856.
Hayward Dam-----	Willow River Lumber Co.-----	Sec. 27, T. 41 N., R. 9 W.---	Mississippi-----	Namakagon River-----	Chap. 11, Laws of 1883.
Haywood Park Dam-----	City of Haywood-----	Sec. 27, T. 41 N., R. 9 W.---	Mississippi-----	Namakagon River-----	Chap. 43 & 11, Laws of 1883.
Paquawang Dam-----	Northern Wisconsin Lumber Co. - American Immigration Co.	Sec. 3, T. 42 N., R. 8 W.---	Mississippi-----	Namakagon-----	Chap. 43, Laws of 1885.
Phipps Dam-----	Willow River Lumber Co.----- American Immigration Co.	Sec. 6, T. 41 N., R. 8 W.---	Mississippi-----	Namakagon-----	Chap. 164 Laws of 1870; Chap. 74, Laws of 1885.
Raddison Dam-----	Arpin Hardwood Lumber Co.-----	Sec. 23, T. 38 N., R. 7 W.---	Mississippi-----	Chippewa River-----	Chap. 340, Laws of 1903.
Water Tank Dam-----	C., St. P., M. & O. Ry. Co.-----	Sec. 4, T. 39 N., R. 3 W.---	Mississippi-----	Fly Blow Creek-----	None found.

TAYLOR COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Hanson's Dam-----	Yellow River Lumber Co.-----	Sec. 4, T. 32 N., R. 2 W.---	Mississippi-----	Yellow River-----	None found.
Hughy Dam-----	Yellow River Lumber Co.-----	Sec. 13, T. 32 N., R. 3 W.---	Mississippi-----	Yellow River-----	None found.
North Fork Dam-----	Yellow River Lumber Co.-----	Sec. 33, T. 33 N., R. 1 W.---	Mississippi-----	Yellow River-----	None found.
Norton Dam-----	Yellow River Lumber Co.-----	Sec. 18, T. 32 N., R. 2 W.---	Mississippi-----	Yellow River-----	None found.
Medford Dam-----	Medford Lumber Co.-----	Sec. 27, T. 31 N., R. 1 E.---	Mississippi-----	Black River-----	Chap. 265, Laws of 1876; Chap. 326, Laws of 1875.
Westboro Dam-----	Westboro Lumber Co.-----	Sec. 7, T. 33 N., R. 2 E.---	Mississippi-----	Silver Creek-----	None found.
Whittesey Dam-----	Medford Lumber Co.-----	Sec. 27, T. 32 N., R. 1 E.---	Mississippi-----	Black River-----	Chap. 277, Laws of 1882.
Whittesey Dam (Lower) -	Medford Lumber Co.-----	Sec. 34, T. 32 N., R. 1 E.---	Miasissippi-----	Black River-----	Chap. 326, Laws of 1875; Chap. 265, Laws of 1876.

TREMPEALEAU COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Beaver Creek Dam	Iver Peterson	Sec. 30, T. 20 N., R. 7 W.	Mississippi	North Branch of Bear Creek.	None found.
Coral City Dam	A. Jacobson	Sec. 18, T. 22 N., R. 7 W.	Mississippi	Pigeon Creek	None found.
Davis Mill Dam	Davis Mill Co.	Sec. 32, T. 19 N., R. 8 W.	Mississippi	Beaver Creek	None found.
Elva Roller Mill Dam	Henry Rusling	Secs. 9 and 10, T. 24 N., R. 8 W.	Mississippi	Big Creek	None found.
Kamla's Dam	Geo. F. Koestner	Sec. 33, T. 21 N., R. 9 W.	Mississippi	Furton Creek	None found.
Linderman's Dam	A. G. Cox	Sec. 8, T. 24 N., R. 7 W.	Mississippi	Beef River	None found.
Mill Dam	Independence Milling Co.	Sec. 25, T. 22 N., R. 9 W.	Mississippi	Elk Creek	None found.
Mill Dam	Warner & Peterson	Sec. 31, T. 23 N., R. 8 W.	Mississippi	Elk Creek	None found.
Osseo Roller Mill Dam	J. N. Lee & Son	Sec. 10, T. 24 N., R. 7 W.	Mississippi	South Beef River	None found.
Pigeon Falls Mill Dam	P. Ekern Co.	Sec. 34, T. 23 N., R. 7 W.	Mississippi	Pigeon Creek	None found.
West Prairie Mill Dam	Chas. Siewert	Sec. 5, T. 18 N., R. 9 W.	Mississippi	Big Tamarack	None found.
White Hall Mill Dam	White Hall Mill & Power Co.	Sec. 23, T. 22 N., R. 8 W.	Mississippi	Trempealeau	None found.



VERNON COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Chaseburg Dam.....	Oehler & Hosmer.....	Sec. 28, T. 14 N., R. 6 W....	Mississippi.....	Coon River.....	None found.
Coon Valley Dam.....	W. L. Thompson & Co.....	Sec. 7, T. 14 N., R. 5 W....	Mississippi.....	Coon River.....	None found.
Cushman Dam.....	C. R. Thompson & Co.....	Sec. 24, T. 12 N., R. 3 W....	Wisconsin.....	East Branch of Kickapoo River.	Chap. 67, Laws of 1881.
Folwell Dam.....	Henecka Folwell.....	Sec. 8, T. 11 N., R. 3 W....	Wisconsin.....	Kickapoo River.....	Chap. 400, Laws of 1903.
Giles White Dam.....	E. E. Hill.....	Sec. 2, T. 14 N., R. 2 W....	Wisconsin.....	Kickapoo River.....	None found.
Hillsboro Dam.....	Vernon County Milling Co.....	Sec. 35, T. 14 N., R. 1 E....	Wisconsin.....	West Branch of Kickapoo River.	None found.
Rockton Dam.....	A. F. Widmer.....	Sec. 34, T. 14 N., R. 2 W....	Wisconsin.....	East Branch of Kickapoo River.	Chap. 48, Laws of 1840.
Seeleyburg Dam.....	La Farge Milling Co.....	Sec. 20, T. 13 N., R. 2 W....	Wisconsin.....	East Branch of Kickapoo River.	Chap. 48, Laws of 1840.

VILAS COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Arbor Vitae Dam	Herman Frank	Sec. 30, T. 40 N., R. 7 E.	Wisconsin	Arbor Vitae Creek	None found.
Big St. Germain Dam	Wisconsin Valley Impr. Co.	Sec. 30, T. 40 N., R. 8 E.	Wisconsin	St. Germain Creek	Chap. 335, Laws of 1907; Chap. 361, Laws of 1909.
Boulder Lake Dam	Chippewa & Flambeau Improve- ment Co.	Sec. 24, T. 42 N., R. 6 E.	Mississippi	Manitowish River	None found.
Buckatahbon Dam	Wisconsin Valley Impr. Co.	Sec. 24, T. 41 N., R. 9 E.	Wisconsin	Buckatahbon Creek	Chap. 335, Laws of 1907; Chap. 361, Laws of 1909.
Fish Trap Dam	Chippewa & Flambeau Improve- ment Co.	Sec. 15, T. 42 N., R. 7 E.	Mississippi	Manitowish River	None found.
Flambeau Lake Dam		Sec. 2, T. 40 N., R. 4 E.	Mississippi	Flambeau River	None found.
Fosterville Dam	Vilas County Lumber Co.	Sec. 34, T. 44 N., R. 6 E.	Lake Superior	Presque Isle River	None found.
Horse Head Creek Dam		Sec. 34, T. 44 N., R. 6 E.	Superior	Horse Head Creek	None found.
Little Deer Skin Dam	Wisconsin Valley Impr. Co.	Sec. 31, T. 41 N., R. 11 E.	Wisconsin	Little Deer Skin River	Chap. 355, Laws of 1907; Chap. 361, Laws of 1909.

## VILAS COUNTY—Concluded

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Longon Deer Skin Dam	Wisconsin Valley Impr. Co.	Sec. 7, T. 41 N., R. 12 E.	Wisconsin	Deerskin River	Chap. 335, Laws of 1907; Chap. 361, Laws of 1909.
Otter Rapids Dam	Town of Eagle River	Sec. 36, T. 40 N., R. 9 E.	Wisconsin	Wisconsin River	Chap. 190, Laws of 1897.
Rest Lake Dam	Chippewa & Flambeau Improvement Co.	Sec. 9, T. 42 N., R. 5 E.	Mississippi	Manitowish River	Chap. 640, Laws of 1911.
Sand Lake Dam		Sec. 27, T. 41 N., R. 5 E.	Mississippi	Flambeau River	None found.
Turtle Lake Dam	Winchester Saw Mill Co.	Sec. 6, T. 43 N., R. 5 E.	Mississippi	Turtle River	None found.
Twin Lake Dam	Wisconsin Valley Improvement Co.	Sec. 19, T. 41 N., R. 11 E.	Wisconsin	Twin River	Chap. 335, Laws of 1907; Chap. 361, Laws of 1909.
Vieux Des Sert Dam	Wisconsin Valley Improvement Co.	Sec. 17, T. 42 N., R. 11 E.	Wisconsin	Wisconsin River	Chap. 335, Laws of 1907; Chap. 361, Laws of 1909.

# *Railroad Commission Report*

## WASHBURN COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Badger Creamery Co. Dam.	Badger Creamery Co.	Sec. 15, T. 38 N., R. 12 W.	Mississippi	Beaver Creek	None found.
Beaver Creek Dam	Badger Creamery Co.	Sec. 15, T. 38 N., R. 12 W.	Mississippi	Beaver Creek	None found.
Birch Lake Dam	Wisconsin-Minnesota Light & Power Co.	Sec. 25, T. 37 N., R. 10 W.	Mississippi	Red Cedar River	Chap. 136, Laws of 1879; Chap. 78, Laws of 1882.
Long Lake Dam	Wisconsin-Minnesota Light & Power Co.	Sec. 24, T. 37 N., R. 11 W.	Mississippi	Brill River	Chap. 222, Laws of 1883.
Kimball Lake Dam	Lewis Cranberry Co.	Sec. 14, T. 42 N., R. 18 W.	Mississippi	Kimball Lake River	None found.
Menong Dam	A. C. Cummings	Sec. 24, T. 42 N., R. 12 W.	Mississippi	Shell Creek	None found.
Spring Lake Dam	Gilbert	Sec. 15, T. 42 N., R. 12 W.	Mississippi	Rice Creek	None found.
Spooner Lake Dam	City of Spooner	Sec. 27, T. 39 N., R. 12 W.	Mississippi	Yellow River	Chap. 49, Laws of 1889; Chap. 27, Laws of 1895.
Spooner Mutual Electric Light Dam	City of Spooner	Sec. 31, T. 39 N., R. 12 W.	Mississippi	Yellow River	Chap. 11, Laws of 1905.

WAUKESHA COUNTY  
(Rock River Basin.)

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Bischel Dam	L. J. Bischel		Rock	Upper Scuppernong River.	None found.
Blott Dam	John C. Blott	Sec. 32, T. 5 N., R. 20 E.	Michigan		Mar. 10, 1837.
Deissner Dam	Louis Beck	Sec. 26, T. 7 N., R. 19 E.	Michigan	Pewaukee River	None found.
Humphrey Dam	E. Humphrey, State of Wisconsin	Sec. 17, T. 7 N., R. 18 E.	Rock	Bark River	None found.
Frazer Dam	H. J. Frazer	Sec. 24, T. 5 N., R. 19 E.	Rock		Laws of 1840.
Funk's Dam	Fred Funk	Sec. 15, T. 8 N., R. 18 E.	Rock	Oconomowoc River	None found.
Genesee Roller Mill Dam	Geo. C. Western & Bro.	Sec. 27, T. 6 N., R. 18 E.	Rock	White Creek	None found.
Menomonee Dam	M. F. Lepper & Co.	Sec. 3, T. 8 N., R. 20 E.	Michigan	Menomonee River	None found.
Merton Rolling Mill Dam	J. P. Schneider	Sec. 24, T. 8 N., R. 18 E.	Rock	Bark River	Laws of 1840, Mill Dam Act.
Monterey Dam	J. P. Roth & Sons	T. 8 N., R. 17 E.	Rock	Ashippun River	None found.
Muckwanago Dam	T. M. E. R. & L. Co.	Sec. 35, T. 5 N., R. 18 E.	Rock	Muckwanago Creek	Mar. 27, 1848.
Muskego Dam	W. Ceasar	Sec. 33, T. 5 N., R. 20 E.	Michigan	Muskego Creek	None found.
Muskego Dam (Little)	J. C. Schuet & Co.	Sec. 9, T. 5 N., R. 20 E.	Michigan	Muskego Creek	None found.

WAUKESHA COUNTY—Concluded

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Neshota Dam-----	John Burg-----	Sec. 3, T. 8 N., R. 18 E. --	Rock-----	Oconomowoc River-----	None found.
Okauchee-----	Oconomowoc River Power Co. ---	Sec. 35, T. 8 N., R. 17 E. --	Rock-----	Oconomowoc River-----	None found.
Peacock Dam-----	James Peacock-----	Sec. 33, T. 8 N., R. 17 E. --	Rock-----	Oconomowoc River-----	None found.
Pewaukee Dam-----	T. M. E. R. & L. Co.-----	Sec. 9, T. 7 N., R. 19 E. --	Rock-----	Pewaukee River-----	Page 8, Laws of 1842.
Proctor Dam-----	James Proctor Est.-----	Sec. 22, T. 6 N., R. 18 E. --	Rock-----	White Creek-----	None found.
Saratoga Mill Dam-----	Guthiel Est.-----	Sec. 3, T. 6 N., R. 19 E. --	Michigan-----	Fox-----	Page 83, Laws of 1848.
Saylesville Roller Mill Dam.	Samuel Foat-----	Sec. 25, T. 6 N., R. 18 E. --	Rock-----	White Creek-----	Chap. 376, Laws of 1856.
Schneider Dam-----	P. Schneider-----	Sec. 16, T. 8 N., R. 18 E. --	Rock-----	Oconomowoc River-----	None found.
Stone Bank Mill Dam----	Mrs. C. J. Rogers-----	Sec. 19, T. 8 N., R. 18 E. --	Rock-----	Oconomowoc River-----	None found.
Wambold Dam-----	L. Wambold-----	Sec. 36, T. 5 N., R. 17 E. --	Rock-----	Outlet of Eagle Lake-----	None found.
Weber Brewing Co. Dam-	Weber Brewing Co.-----	Sec. 3, T. 6 N., R. 19 E. --	Michigan-----	Tributary of Fox River--	None found.
Youman Dam-----	A. M. Youman-----	Sec. 3, T. 6 N., R. 19 E. --	Michigan-----	Tributary of Fox River--	None found.

WOOD COUNTY

Local Name.	Owner.	Location.	Drainage Basin.	Stream.	Charter Recorded.
Biron Dam-----	Consolidated Paper & Water Power Co.	Sec. 33, T. 23 N., R. 6 E. --	Wisconsin ----	Wisconsin River-----	Chap. 316, Laws of 1889.
Grand Rapids Dam-----	Consolidated Paper & Water Power Co.	Sec. 8, T. 22 N., R. 6 E. --	Wisconsin ----	Wisconsin River-----	Chap. 210, Laws of 1893; Chap. 82, Laws of 1895.
Nekoosa Dam-----	Nekoosa-Edwards Paper Co.-----	Sec. 10, T. 21 N., R. 5 E. --	Wisconsin ----	Wisconsin River-----	Chap. 53, Laws of 1889.
Port Edwards Dam-----	Nekoosa-Edwards Paper Co.-----	Sec. 36, T. 22 N., R. 5 E. --	Wisconsin ----	Wisconsin River-----	Chap. 276, Laws of 1874.
South Side Dam-----	Centralia Pulp & Water Power Co.	Sec. 24, T. 22 N., R. 5 E. --	Wisconsin ----	Wisconsin River-----	Chap. 29, Laws of 1887.

## INVESTIGATION OF PERMITS

In the course of investigating the permits under which dams already investigated are being operated it was found necessary to make a list of all permits which had been granted by legislative act. Consequently, such a list was prepared of all franchises and permits granted by the legislature since the organization of the territory of Wisconsin and also during the period when Wisconsin was a part of the territory of Michigan.

This list of permits is attached hereto, arranged alphabetically by counties (except that following this list by counties is a supplementary list including a number of permits which could not be included in the county list) with the permits in each county arranged chronologically. In each case there is given the citation of the law granting the charter, location for which the charter was granted, the river, name of grantee, length of duration of grant, purpose of grant and remarks covering special features relative thereto.

There are given in all 770 permits to construct dams, of which 250 are for power and hydraulic purposes, 160 for logging and to facilitate logging, 54 for hydraulic and improvement of navigation, 49 for log driving and hydraulic purposes, 36 for improvement and navigation and log driving, 35 for improvement of navigation and 186 for other purposes viz: to feed canals, for pisciculture, to create ponds, to flow cranberry marshes, for general municipal purposes, for the "public good," and also grants in which no purpose was specified.

Besides these 770 permits for the construction and maintenance of dams, there are 130 miscellaneous or special acts of the legislature. These acts do not refer to any special dam or location, but pertain in a general way to all dams, or rivers, or to conditions on a certain river.



## LIST OF PERMITS

## ADAMS COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1855	361	N. W. ¼, Sec. 35, T. 14 N., R. 2 E.-----	Baraboo-----	Joel Bishop-----	No Limit----	Hydraulic-----	Height of dam not to exceed 9 feet above low water.
1866	588			Briggsville Water Power & Improve- ment Company.	No Limit----	Power-----	Right within village of Briggs- ville only. Amended by Chap. 221, Laws 1869, authorizing races, canals, or water courses in Columbia county.
1874	306	Town of Rome-----	Wisconsin-----	Hiram Russell-----	No Limit----	None specified-----	Build wing dam only, not to exceed 3 feet in height.
1891	277	At Kilbourn City----	Wisconsin-----	Kilbourn City-----	No Limit----	Water works and other municipal pur- poses. Improvement of navigation.	Mill Dam Act applies.

## ASHLAND COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1869	----	T. 43 N., R. 6 W.; Sec. 12, T. 42 N., R. 10 W.	Namakagan ---- Totogatic-----	Namakagan & Totogatic Dam Co.	10 Years-----	Logging & Improvement of Navigation	May collect toll. "Amendments" Chap. 164, Laws 1870. Also changes name to St. Croix Dam Co. Chap. 45, Laws 1871. Chap. 406, Laws 1876. Chap. 124, Laws 1877. Chap. 207, Laws 1878. Chap. 43, Laws 1885. Chap. 74, Laws 1885. Chap. 344, Laws 1887. Chap. 40, Laws 1889.
1871	483	T. 45, 46 & 47 N., R. 6 & 7 E.	White-----	White River Dam, Log Driving & Boom Co.	20 Years-----	Improvement of Navigation and Log Driving	Open channel for logs, boats, etc.
1882	278	-----	Bad, White & Tributaries	J. A. Humbird et al	No Limit----	Facilitate Log Driving	Not to impede navigation. May collect toll.
1887	407	Sec. 34, T. 46 N., R. 2 E.	Montreal (West Branch)	D. Fifield-----	No Limit----	Logging-----	One or more dams.
1893	99	N. ¼ N. E. ¼ Sec. 6, T. 46 N., R. 4 W.	White-----	Geo. Danielson et al	No Limit----	Hydraulic & Boomage	Height of dam not to exceed 30 feet.
1895	341	Between No. Line Sec. 10, T. 41 N., R. 1 W., and point where creek flows into Butternut Lake, Sec. 32, T. 41 N., R. 1 W.	Butternut Creek	Butternut Water Power Company.	No Limit----	Log Driving-----	

ASHLAND COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1895	346	Sec. 12, T. 42 N., R. 2 W.	Chippewa-----	G. L. Rogers and R. A. Cook.	No Limit---	None Specified-----	Dam not to exceed 10 feet in height from bottom of stream. Slide or chute to be kept open during driving stage.
1907	381	Sec. 30, T. 45 N., R. 2 W.	Bad-----	W. M. Ruggles et al	No Limit---	Power-----	Subject to Chap. 350, Laws 1905. To be started within four years. Rights to cease if operation ceases for a continuous period of two years. Not to exceed 80 feet above low water mark.

# Railroad Commission Report

## BARRON COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1864	325	Sec. 21 T. 35 N., R. 11 W. Fraction of Lots 2 and 3, near Foot of Rice Lake. Formerly Dalles County.	Red Cedar-----	J. H. Knapp, Andrew Tainter	No Limit---	Hydraulic & Logging	Dam not to exceed 8 feet above low water mark.
1865	319	Sec. 30 T. 33 N., R. 10 W. Lot 2	Chetek-----	Andrew Tainter et al	No Limit---	Hydraulic & Logging	
1868	461	S. W. $\frac{1}{4}$ S. W. $\frac{1}{4}$ Sec. 26 T. 34 N., R. 12 W. Formerly Dalles County	Vermillion-----	James Bracklin-----	No Limit---	Power-----	
1874	153	S. E. $\frac{1}{4}$ N. E. $\frac{1}{4}$ Sec. 5, T. 37 N., R. 14 W.	Clam-----	W. A. Talboy et al	10 Years----	Log Driving-----	Dam to raise water not to exceed 10 feet. Amendment Chap. 247, Laws 1876, pertains to toll.
1874	154	S. W. $\frac{1}{4}$ Sec. 1 T. 34 N., R. 14 W. and N. W. $\frac{1}{4}$ N. E. $\frac{1}{4}$ Sec. 10 T. 37 N., R. 14 W.	Clam-----	David Tewksbury---	10 Years----	Log Driving-----	Dam to raise water not to exceed 12 feet. Amendment Chap. 263, Laws 1876, pertains to toll. Two dams.
1874	304	Sec. 16, T. 33 N., R. 14 W.	Moons Creek-----	John H. Knapp et al	No Limit---	Hydraulic, Manufacturing & Log Driving	On land owned. Dam protected by damage clause.

## BARRON COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1874	231	Sec. 34, T. 36 N., R. 13 W.	Branch of Yellow	John H. Knapp et al	No Limit---	Log Driving-----	Build dam on land owned only. Dam protected by damage clause.
1874	264	Sec. 24, T. 34 N., R. 14 W.	Lighting Creek--	John H. Knapp et al	No Limit---	Hydraulic Manufacturing & Log Driving	Build dam on land owned by them. Dam protected by damage clause.
1875	288	E. ½ S. W. ¼ Sec. 5, T. 36, N., R. 14 W.	Sand Creek-----	Elam Greeley-----	15 Years----	Not Specified-----	Right to maintain dam. Dam not to raise water to exceed 15 feet. Slides to be kept open at all times, during driving stage and when not necessary to hold water back for driving or flooding logs.
1878	284	N. E. ¼ N. W. ¼ Sec. 28, T. 34 N., R. 12 W.	Yellow-----	John Quaderer-----	No Limit---	Hydraulic & Boomage	Dam not to raise water to exceed 8 feet.
1878	283	S. E. ¼ Sec. 28, T. 34 N., R. 12 W.	Quaderer's Creek	John Quaderer-----	No Limit---	Hydraulic & Boomage	Dam not to raise the water to exceed 10 feet.
1879	96	Sec. 18, T. 36 N. R. 11 W.	Bear Creek-----	Knapp Stout Co.----	No Limit---	Hydraulic Manufacturing & Facilitate Log Driving	
1879	155	Sec. 7, T. 35 N., R. 12 W.	Yellow-----	Knapp Stout Co.----	No Limit---	Hydraulic Manufacturing & Facilitate Log Driving	Not to interfere with prior rights.

## BARRON COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1880	26	Sec. 22, T. 35, N., R. 13 W.	Vermillion-----	Frederick R. Stees	No Limit---	Hydraulic-----	Shall not raise water more than 10 feet. Mill Dam Act applies. Eminent domain granted by Chap. 146, Revised Statutes.
1880	32	Sec. 11, T. 33 N., R. 14 W.	Turtle Creek-----	Knapp Stout Co.-----	No Limit---	Hydraulic & Logging	
1880	33	Sec. 27, T. 34 N., R. 14 W.	Turtle Creek-----	Knapp Stout Co.-----	No Limit---	Hydraulic & Logging	
1880	40	Sec. 36, T. 36 N., R. 10 W.	Hemlock Creek--	Knapp Stout Co.-----	No Limit---	Hydraulic & Logging	
1880	75	Sec. 32, T. 34 N., R. 13 W.	Hay-----	Knapp Stout Co.-----	No Limit---	Hydraulic & Logging	
1881	64	Sec. 7, T. 34 N., R. 14 W.-----	C a n a l with dams between Bear and Horse- shoe Lakes	A. D. Andrews----- B. W. Andrews John W. Berley	No Limit---	Log Driving & Other Purposes	
1882	103	S. E. $\frac{1}{4}$ N. E. $\frac{1}{4}$ Secs. 21 and 22, T. 36 N., R. 10 W. Lot 3	Red Cedar-----	Knapp Stout Co.-----	No Limit---	Manufacturing & Log Driving	
1882	144	S. E. $\frac{1}{4}$ S. W. $\frac{1}{4}$ Sec. 21, T. 32 N., R. 13 W.	Hay-----	Knapp Stout Co.-----	No Limit---	Facilitate Log Driv- ing	

## BARRON COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1883	213	S. E. ¼ Sec. 27, T. 34 N., R. 12 W.	Yellow-----	Charles S. Taylor et al	No Limit---	Power Manufacturing & Boomage	Subject to Chap. 146 Revised Statutes. Shall not raise water to exceed 12 feet.
1885	180	N. ½ Sec. 17, T. 36 N., R. 14 W.	Sand Creek-----	J. Heath et al-----	No Limit---	Logging & Power	Water not to be raised over 18 feet.
1885	231	S. W. ¼ Sec. 26, T. 36 N., R. 13 W.	Miller Creek-----	J. H. Stout et al-----	No Limit---	None Specified-----	Water not to be raised over 16 feet. Mill Dam Act applies.
1885	236	S. W. ¼ N. W. ¼ Sec. 23, T. 36 N., R. 12 W.	Little Bear-- Creek (Tributary of Red Cedar)	J. H. Stout et al-----	No Limit---	None Specified-----	Water not to be raised over 16 feet above ordinary water level.
1887	176	N. W. ¼ Sec. 27, T. 34 N., R. 12 W.	Yellow-----	J. Taylor-----	No Limit---	Boomage & Power---	Not to raise water over 8 feet or interfere with dam above. Dam not built subject to Mill Dam Act.
1891	322	Sec. 20, T. 34 N., R. 12 W.	Vermillion-----	W. B. Crawford-----	No Limit---	Hydraulic Manufac- turing & Boomage	Dam not to raise water more than 8 feet. Mill Dam Act applies.
1895	59	N. ½ N. E. ¼ Sec. 20, T. 33 N., R. 13 W.	Hay-----	Oley Johnson-----	No Limit---	Hydraulic Manufac- turing & Boomage	Eminent Domain granted by Chap. 146, Revised Statutes 1878. Dam not to raise water to exceed 8 feet above natural channel of river.

## BARRON COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1897	143	N. ½ Sec. 18, T. 35 N., R. 13 W.	Hay-----	W. G. Curtis-----	No Limit---	Hydraulic & other. To keep water of Beaver Dam Lake uniform.	Dam to be of same height as unauthorized dam built during 1896 at same point.
1905	401	E. ½ of N. E. ¼ Sec. 32, T. 35 N., R. 11 W.	Red Cedar-----	P. M. Parker----- S. A. Peterson	No Limit---	Power & Improve- ment of Navigation	Dam not to exceed 15 feet above low water mark. Piers for dam only.



## BAYFIELD COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1871	483	T. 45, 46, & 47, N., R. 4, 6, & 7 E. Also Ashland County	White-----	White River Dam, Log Driving & Boom Co.	20 Years-----	Improvement of Navigation and Logging	
1872	117	Sec. 16, T. 44 N., R. 9 W. Lot 4.	Eau Claire Lake or River	Orange Walker et al	15 Years-----	Log Driving-----	Height not to exceed 10 ft. above low water. Gates to be open during July, August & September.
1873	252	T. 43 N., R. 8 W.; also T. 42 N., R. 12 W.	Totogatic-----	Aron M. Chase-----	No Limit----	Log Driving-----	Two dams.
1881	326	Dam or dams from mouth to source, including all tributaries—T. 51 N., R. 6 W.	Siscowit-----	R. D. Pike et al-----	No Limit----	Logging-----	
1881	327	Dams and improvements from mouth to source, including all tributaries—T. 50 N., R. 9 W.	Iron-----	R. D. Pike et al-----	No Limit----	Logging-----	
1882	182	Sec. 8, T. 43 N., R. 9 W.	Totogaticanse---	J. E. Glover et al---	15 Years-----	Facilitate Log Driving. Slides for Logs.	May collect toll. Not to raise water over 12 ft.
1882	184	Sec. 6, T. 43 N., R. 9 W.	Totogaticanse---	J. E. Glover et al---	15 Years-----	Facilitate Log Driving. Slides for Logs.	May collect toll. Not to raise water over 12 ft.

## BAYFIELD COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1882	278	Also Ashland County	Bad, White and Tributaries	J. A. Humbird, et al	No Limit---	Facilitate Log Driving	<sup>1</sup> Dams from west line of Sec. 6, T. 48 N., R. 8 W. on east fork; and from south line of Sec. 2, T. 48 N., R. 9 W. on west fork to mouth of Iron River.
1883	224	Near C. M. & St. P. Crossing	White-----	J. A. Humbird et al	No Limit---	Facilitate Log Driving	
1883	335	S. ½ S. W. ¼ Sec. 27, T. 45 N., R. 5 W.	Marengo-----	Robert Ritchie-----	No Limit---	Facilitate Log Driving.	
1889	394	Above east line Sec. 13, T. 45 N., R. 7 W.	White, Long----- Lake Br.	J. S. Owen-----	No Limit---	Logging and Improvement of Navigation.	<sup>2</sup> Build dams at any point, from south line of Sec. 9, T. 48 N., R. 8 W.; also from south line of Sec. 9, T. 48 N., R. 8 W. to west line of Sec. 6, T. 48 N., R. 8 W.; also from east line Sec. 20, T. 48 N., R. 8 W.; and from south line of Sec. 20, T. 48 N., R. 8 W. to west line of Sec. 6, T. 48 N., R. 8 W. on east fork of Iron River; and from south line of Sec. 31, T. 48 N., R. 8 W. to south line of Sec. 2, T. 48 N., R. 9 W. and from south line Sec. 26, T. 48 N., R. 9 W. to south line of Sec. 2, T. 48 N., R. 9 W. on west fork of Iron River.
1891	222	See Remarks <sup>1</sup> -----	Iron-----	P. Hynes-----	No Limit---	Log Driving-----	
1893	278	See Remarks <sup>2</sup> -----	Iron (east and west Forks)	Patrick Hynes-----	No Limit---	Improvement of Navigation.	
1907	590	N. ½ N. W. ¼ Sec. 19, T. 49 N., R. 4 W.	Sioux River	City of Washburn---	No Limit---	General Municipal and Improvement of Navigation.	May let excess power for any lawful private purpose for a period of not longer than 10 years. Not to exceed 60 feet in height.

BROWN COUNTY.

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1835	Vol. 3 No. 14 Terr. Laws of Mich,	Head of Rapids des Peres	Fox-----	Wm. Dickinson et al	No Limit---	Hydraulic-----	Must pay damage for flowage. No right of trespass by owners of land. Dam not to exceed 4 feet in height above surface of stream in high water. Act, Dec. 3, 1836, No. 14 (Incorp. as Fox River Hydraulic Company. Failure to complete dam and locks within 8 years after passage of act forfeits charter). Amend. Jan. 11, 1838 No. 33 (in re stock and directors.)
1841	68	Near dam formerly built by Wm. Farnsworth.	Menominee (So. Branch)	S. H. Farnsworth----	No Limit---	Hydraulic-----	Dam not to exceed 6 feet above high water mark. Amend. Apr. 10, 1843, P. 61 (in re to location and depth of lock): Locks for boats when river is made navigable, to be 80 feet by 20 feet wide.
1842	P. 84	Sec. 24, T. 28 N., R. 21 E. Lots 6 & 7	Oconto-----	Geo. Lurwick-----	No Limit---	Hydraulic-----	All rights transferred to Jones & Ardott—Chap. 20, Laws 1852.
1845	P.100	Sec. 1, T. 32 N., R. 22 E.	Menominee-----	Caril Hall-----	No Limit---	Power-----	Mill & Mill Dam Act effective. Slides not less than 20 feet wide, with fall not more than 3 feet for every 12 feet of smooth water. Dam not to exceed 5 feet above high water.

## BROWN COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1848	P. 38	Sec. 26, T. 28 N., R. 20 E. Lots 2 & 3. Sec. 35, T. 28 N. R. 20 E. Lots 2 & 4	Oconto-----	Elisha Morran-----	No Limit---	Power-----	Mill Dam Act effective. Dam not to exceed 10 feet above high water.
1850	277	-----	Fox River Rapids at De Pere	Joshua F. Cox-----	No Limit---	Improvement of Navigation & Hydraulic Power	In consideration for Cox's completing improvement without cost to state, he receives permission for free use of surplus water by the dam for hydraulic purposes. Must keep dam and lock in repair, and pass boats etc. free of charge.
1871	269	Also Manitowoc County	None named-----	Two Rivers Mfg. Co.	No Limit---	Manufacturing-----	Two Rivers Mfg. Co. granted right to lay out and contract such dams, mills, etc., . . . from and adjacent to lands of Company in Manitowoc and Brown Counties.

## BUFFALO COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1876	34	Sec. 17, T. 20 N., R. 10 W. Fr. Lots 7 & 2	Trempealeau-----	W. H. Decker-----	No Limit---	Manufacturing and other.	Dam to be of height necessary for manufacturing and other purposes. Must pay damages for flowage.

# BURNETT COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1869		Sec. 12, T. 42 N., R. 10 W.; T. 43 N., R. 6 W.	Totogatic----- Namakagan	Totogatic Dam Co. Namakagan & Totogatic Dam Co.	10 Years----	Improvement Navigation & Logging	May collect toll. "Amendments" Chap. 164, Laws 1870. Chap. 45, Laws 1871. Chap. 406, Laws 1876. Chap. 43, Laws 1885. Chap. 74, Laws 1885. Chap. 344, Laws 1887. Chap. 40, Laws 1889. Chap. 124, Laws 1877. Chap. 207, Laws 1878.
1872	112	S. E. ¼ S. E. ¼ Sec. 12, N. W. ¼ N. E. ¼ Sec. 18, T. 39 N., R. 11 W.	Bean Brook, Mackey Branch	Emil Munch et al----	15 Years----	Log Driving-----	
1873	134	Sec. 28, T. 41 N., R. 10 W.; Sec. 6, T. 39 N., R. 10 W.; Sec. 8, T. 39 N., R. 10 W.	Chimpanzee Brook; Bean Brook	F. A. Dresser-----	20 Years----	Log Driving-----	Amendment Chap. 69, Laws 1874, pertains to toll charges. F. A. Dresser may build one or more dams in Bean Brook. (Original Grt.)
1873	245	N. W. ¼ N. E. ¼ Sec. 33 T. 39 N., R. 18 W.	Wood, North Fork, North Branch	Alvin N. Bugbee et al	No Limit----	To flow Cranberry Marsh	Height of dam not to exceed 5 feet.
1875	70	(Near Town of Grantsburg)	Wood-----	Canute Anderson----- J. M. Whalley	15 Years----	Not Specified-----	Right to maintain dam. Not to raise water to exceed 12 feet. Slides to be open during driving stage and when not necessary to hold back water for logging purposes.

## BURNETT COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1876	252	N. E. ¼ Sec. 30 T. 38 N., R. 14 W.	Burham-----	John Arbuckle-----	15 Years----	Not Specified-----	Dam not to raise water to exceed 15 feet. Slides to be open during driving stage, and when not necessary to hold back water for logging purposes.
1876	287	Sec. 26 T. 38 N., R. 18 W.	Wood-----	J. P. Jacobson-----	No Limit----	None Specified-----	Dam not to raise water in any part of river more than 20 inches above its natural flow. Repealed by Chap. 39, Laws 1881.
1879	136	Sec. 25 T. 37 N., R. 10 W.	Red Cedar-----	Knapp Stout Co.-----	No Limit----	Hydraulic Manufacturing & Log Driving	Not to interfere with prior rights. Amended Chap. 78, Laws 1882. (Changed "successors" to "heirs".)
1879	137	Sec. 34 T. 36 N., R. 13 W.	Yellow-----	Knapp Stout Co.-----	No Limit----	Hydraulic Manufacturing & Log Driving	Not to interfere with prior rights. Amendment Chap. 95, Laws 1884, changes "successors" to "heirs."
1880	25	S. W. ¼ Sec. 16 T. 38 N., R. 18 W.	Wood River-----	Gustav J. Erickson P. E. Paterson	15 Years----	Hydraulic & Log Driving	Shall not raise water more than 8 feet.
1881	41	Sec. 23 T. 38 N., R. 18 W.	Wood-----	John P. Jacobson-----	15 Years----	Hydraulic & Log Driving	
1881	77	Sec. 12 T. 40 N., R. 11 W.	Hay Creek-----	John G. Nelson Wm. Long	15 Years----	Facilitate Log Driving	Water not to be raised more than 12 feet.
1883	75	Sec. 28 T. 38 N., R. 17 W. Lot 3	Dunnums Creek-----	Erick Landholm-----	15 Years----	Power, Manufacturing & Log Driving	Dam shall not raise water to exceed 12 feet.

## BURNETT COUNTY—Continued.

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1883	222	S. W. $\frac{1}{4}$ S. W. $\frac{1}{4}$ Sec. 24 T. 37 N., R. 11 W.	Long Lake-----	Knapp Stout & Co.	No Limit---	Power, Manufacturing	Subject to Chap. 318, Laws 1882. Act must be accepted within 60 days of its publication or O. H. Ingram may accept it instead of grantee.
1885	402	S. E. $\frac{1}{4}$ S. E. $\frac{1}{4}$ Sec. 28 T. 38 N., R. 18 W.	Wood-----	C. Anderson-----	No Limit---	Flooding & Power--	Not to raise water exceeding 6 feet. Subject to Mill Dam Act.
1887	177	W. $\frac{1}{2}$ N. E. $\frac{1}{4}$ Sec. 22 T. 37 N., R. 18 W.	Trade-----	F. Petterson-----	No Limit---	Boomage & Power--	
1887	448	S. E. $\frac{1}{4}$ S. E. $\frac{1}{4}$ Sec. 16 T. 37 N., R. 18 W.	Trade-----	C. J. Akerlind-----	No Limit---	Boomage Power & Other Purposes.	
1887	254	T. 39 N., R. 16 W.	Clam-----	W. J. Vincent et al	No Limit---	Improvement Navigation & Logging	May collect toll. Repealed May 21, 1907, Chap. 111.
1889	49	Sec. 27 T. 39 N., R. 12 W. Sec. 7 T. 40 N., R. 16 W. Sec. 20 T. 39 N., R. 14 W. Sec. 10 T. 38 N., R. 13 W.—Four dams	Yellow-----	Wm. Chalmers-----	No Limit---	Logging & Improvement Navigation	May collect toll. Subject to Mill Dam Act and Sec. 1777, Revised Statutes. Repealed Mar. 14, 1895, Chap. 27.

## BURNETT COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1891	104	Sec. 6 T. 42 N., R. 15 W.	Tamarack-----	Wm. Sauntry-----	No Limit----	Improvement of Navigation.	All conflicting acts repealed.
1891	148	Sec. 36 T. 37 N., R. 19 W.	Trade-----	Carl E. Peterson----	30 Years----	Hydraulic & Manufacturing.	Dam not to raise water more than 12 feet. Dam protected by damage clause.
1893	221	S. E. ¼ N. E. ¼ Sec. 5 T. 37 N., R. 14 W.	Clam-----	John Arbuckle-----	No Limit----	Log Driving-----	May build dam or dams at any point within said limits. All conflicting acts repealed.
1893	264	N. E. ¼ Sec. 30 T. 38 N., R. 14 W.	Clam-----	John Arbuckle-----	No Limit----	Log Driving-----	Dam not raise water to exceed 10 feet.
1895	98	N. W. ¼ S. W. ¼ Sec. 14 T. 38 N., R. 19 W.	Wood-----	Hickerson Rolling Mill Co.	15 Years----	Hydraulic & Flooding	Dam not to raise water to exceed 8 feet.
1895	114	Sec. 34 T. 37 N., R. 18 W.	Trade-----	Ole Matson-----	20 Years----	Hydraulic & Manufacturing.	Dam not to exceed 12 feet in height.
1895	101	Sec. 7 T. 40 N., R. 16 W. Sec. 20 T. 39 N., R. 14 W.	Yellow-----	Abe Johnson-----	No Limit----	Improvement of Navigation	Conflicting acts repealed. Repealed by Chap. 141, Laws 1897
1897	207	Sec. 15 T. 38 N., R. 15 W.	Cranberry Creek	J. H. Waterman-----	No Limit----	Not Specified-----	Dam not to raise water to exceed 5 feet. Slides to be kept open during driving stage.
1901	260	S. W. ¼ N. W. ¼ Sec. 22 T. 38 N., R. 19 W.	Wood-----	A. P. Nelson-----	25 Years----	Hydraulic & Flooding	Dam not to raise water more than 14 feet. Damage clause protecting dam.



## CHIPPEWA COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1856	80	S. W. ¼ Sec. 14 T. 27 N., R. 9 W.	Clearwater-----	William Carson-----	No Limit---	Hydraulic-----	
1857	235	T. 28 N., R. 8 W.	Chippewa-----	Chippewa Falls Lumber Co.	No Limit---	Log Driving & Manufacturing	Height of dam not to exceed 16 feet above low water mark. Amend. Chap. 72, Laws 1862, pertains to booming.
1864	300	Sec. 30, T. 30 N., R. 7 W.	Chippewa-----	Aden Randall-----	No Limit---	Hydraulic & Manufacturing. Slide for Logs	
1866	284	-----	Eau Claire & Trib.	Eau Claire Lumber Co.	-----	Power-----	Amendment Chap. 307, Laws 1869.
1867	568	S. E. ¼ Sec. 19, 20, 30, and 29, T. 30 N.,	Chippewa-----	J. C. French et al---	No Limit---	None Specified-----	Mill Dam Act effective for damages, etc.
1867	328	Sec. 22, T. 29 N., R. 8 W.	Chippewa & West Rapids	Eagle Rapids Flooding Dam & Boom Co.	No Limit---	Logging & Improvement of Navigation	Mill Dam Act effective for damages. Dam in river not to exceed 16 feet from low water to top of dam. Amend. Chap. 231, Laws 1873. Height of water not to be raised over 12 feet. Dam in rapids not to raise water to exceed 6 feet above low water at Mills of Webb & Co.

## CHIPPEWA COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1869	86	Secs. 26, 33, 34, & 35, T. 29 N., R. 8 W. Secs. 2, 3, 4, 5, 6, 7, and 8, T. 28 N., R. 8 W. Sec. 11 & 12, T. 28 N., R. 9 W.	Chippewa and Tributaries	Union Lumber Co.	No Limit	Logging & Power	Chap. 297, Laws 1870, prohibits of any dam below base of Falls in Chippewa River.
1874	228	See Remarks	Fisher	L. D. Brewster	No Limit	Log Driving	May build dam or dams across Fisher River, (Branch of Chippewa River) in Chippewa Co.
1875	254	S. W. ¼ Sec. 21, T. 33 N., R. 8 W.	Rice Creek	Holman Franklin	No Limit	Facilitate Logging & Improvement of Navigation	
1875	326	Secs. 27 and 21 T. 31 N., R. 1 E., Secs. 14 & 15 T. 32 N., R. 1 E.	Black	Roberts & Wheelan	No Limit	Facilitate Log Driving & all others	Mill Dam Act applies. Dam should be of sufficient height to give a head of water not to exceed 10 feet. See Amendment Mar. 28, 1876, Chap. 265.
1878	281	Bet. Secs. 23 & 34, T. 40 N., R. 4 W., and T. 38 N., R. 6 W. respectively	Brunx (Branch of Chippewa)	J. B. McDonald and Hugh McFee	No Limit	Facilitate Log Driving	Repealed by Chap. 260, Laws 1882.
1878	318	N. of N. Line, T. 38 N., R. 8 W.	Court Oreille	F. G. Stanley et al	No Limit	Facilitate Log Driving	No flooding dams to be placed south of north line for T. 38 N., R. 8 W. Amended February 24, 1879, Chap. 27, changes "north of north line" to "south of east line and no flooding dams east of east line".

## CHIPPEWA COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1879	53	-----	Soft Maple Creek	Mark Douglas-----	No Limit---	Improve Creek Facilitate Logging	
1879	55	T. 33 & 34 N., R. 6 W.	Deer Tail Creek (Tributary of Chippewa)	Daniel Shaw Elias Moses	No Limit---	Facilitate Logging---	May maintain dam or dams that they have heretofore built, and maintained across Deer Tail River T. 33 & 34 N., R. 6 W.
1879	71	Sec. 9, 16 & 21, T. 37 N., R. 7 W.	Wiergor (Tributary of Chippewa)	N. Abrahamson-----	No Limit---	Not Specified-----	To hold back water for sluicing and driving of logs.
1879	143	N. E. ¼ - N. E. ¼ Sec. 26, T. 40 N., R. 7 W.	Little Chippewa River	A. S. Haywood W. E. McCord	No Limit---	Facilitate Log Driving	
1879	144	Sec. 14, T. 37 N., R. 3 W.	Pine Creek-----	Wm. McKeath-----	No Limit---	Facilitate Log Driving	Right to maintain a dam.
1879	154	Sec. 30 or 31, T. 33 N., R. 9 W.	Ten Mile Creek	Knapp Stout Co.-----	No Limit---	Hydraulic Manufacturing & Log Driving.	Not to interfere with prior rights.
1880	41	Sec. 29, T. 36 N., R. 9 W.	Hemlock Creek	Knapp Stout Co.-----	No Limit---	Hydraulic & Logging	
1880	84	N. ½ N. W. ¼ Sec. 14, T. 31 N., R. 5 W.	Christmas Creek	Charles W. Hanson--	No Limit---	Facilitate Log Driving	

## CHIPPEWA COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1880	92	Sec. 30, T. 36 N., R. 9 W.	Hemlock Creek	Knapp Stout Co.-----	No Limit----	Hydraulic & Log Driving	
1880	182	S. of N. Line, T. 29 N., R. 5 W.	Wolf - Tributary of Eau Claire	Delos R. Moon-----	No Limit----	Facilitate Log Driving	
1880	294	Sec. 8, 9, and 16, T. 35 N., R. 4 W.; Sec. 24, T. 35 N., R. 5 W.	Deer Tail Creek (Branch of Chippewa)	James W. Heather, and James McGee	No Limit----	Facilitate Log Driving	
1880	296	Sec. 16 & 17, T. 31 N., R. 5 W.	Hay Creek-----	John Redmond-----	No Limit----	Facilitate Log Driving	
1880	177	S. of S. Line Sec. 7 T. 29 N., R. 4 W.	Otter Creek (Tributary of Wolf)	Delos Moon-----	No Limit----	Log Driving	
1881	266	Sec. 1, T. 29 N., R. 6 W.	Yellow-----	Robert Jackson-----	No Limit----	Driving and Flooding Logs.	
1881	177	Sec. 24, T. 32 N., R. 6 W. Dam or dams or elsewhere on said creek, Tributary of Chippewa.	Fisher-----	Eugene Shaw & D. P. Simons	No Limit----	Facilitate Log Driving	
1881	255	Dam or dams between east line Sec. 4, T. 28 N., and north line, Sec. 26, T. 29 N., R. 8 W.	Chippewa-----	Stanton Bernard-----	No Limit----	Facilitate Log Driving	Chap. 96, Laws 1883, amend as follows: Act to not interfere with vested rights of others within points above. Given 90 days to lose or acquire improvements existing between said points. Must maintain for 4 years.

## CHIPPEWA COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1881	331	Sec. 16, T. 38 N., R. 8 W.	Windfall Creek	John Mooning et al.	No Limit	Facilitate Log Driving	
1883	113	City of Chippewa Falls	Duncan Creek	Hector McRae et al.	No Limit	None Specified	One or more dams allowed.
1883	347	Dam and improve	Fisher	Wm. Irvin	No Limit	Driving Logs	
1883	230	Sec. 29, T. 31 N., R. 8 W.	O'Neill Creek	Marshall Miller, et al.	No Limit	Manufacturing & Log Driving	
1885	100	W. ¼ - N. W. ¼ Sec. 26, T. 36 N., R. 9 W.	Hemlock Creek	J. H. Stout et al.	No Limit	None Specified	Water not to be raised over 18 feet above ordinary level.
1887	262	N. E. ¼ - N. E. ¼ Sec. 6, T. 28 N., R. 8 W. Blocks 14 & 15, Chippewa Falls	Duncan Creek	J. Leinenjuel	No Limit	Manufacturing	Not to exceed height of 10 feet over low water mark. Not to interfere with dam above or below.
1891	313		Chippewa	Wm. F. Bailey et al.	No Limit	Log Driving	May build dams not to exceed 7 feet in height on Chippewa River between Eau Claire and Chippewa Falls
1895	357	Sec. 34 T. 32 N., R. 6 W. Sec. 4 T. 31 N., R. 6 W.	Fisher	Warren Flint Edw. Porter	No Limit	Facilitate Log Driving	Acts or parts of conflicting acts are repealed.

## CHIPPEWA COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1903	178	Sec. 18, T. 31 N., R. 6 W.	Chippewa	Cornell Land & Power Company	No Limit	Hydraulic	Height of dam not to exceed 38 feet above ordinary low water. Dam at Brunette Falls.
1903	180	Sec. 18, T. 32 N., R. 8 W.	Long Lake	Long Lake Improvement Company	No Limit	Improvement of Navigation	Dam to be built near outlet at or near site of old dam.
1903	172	S. ½, Sec. 30 - also Sec. 20 & 29, T. 30 N., R. 7 W. (two dams)	Chippewa	David R. Davis et al	No Limit	Hydraulic	Height of dam not to exceed 28 feet above ordinary water level. Two dams.
1903	231	Sec. 1 & 12, T. 29 N., R. 8 W. N., R. 8 W.	Chippewa	J. W. Thomas	No Limit	Hydraulic	Height of dam not over 20 feet above ordinary low water.
1907	286	S. E. ¼ N. E. ¼, Sec. 31, T. 29 N., R. 6 W.	Yellow	J. Svetlik, et al	No Limit	Power and improvement of navigation.	Subject to Chap. 350, Laws 1905, construction to be started within 2 years. Rights to cease if operation ceases for a continuous period of 2 years. Not to exceed 10 feet in height.
1911	224	W. ½ N. W. ¼, Sec. 32, T. 29 N., R. 5 W.	Hay Creek	Albert Butscher	No Limit	Free use by the public for park purposes.	
1911	225	Sec. 18, T. 32 N., R. 8 W.	Long Lake, near outlet.	Edward McCormick	No Limit	Improve navigation. Protect fish.	The fishways are subject to the approval of the fish commission. Right to maintain present dam or erect new dam, provided the present highway across the old dam is kept in its present usefulness.

CLARK COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1866	447	Near Mouth of River	Black-----	Black River Improve- ment Co.	25 Years----	Improvement of Nav- igation.	
1866	284	-----	Eau Claire & Trib.	Eau Claire Lumber Co.	No Limit---	Power-----	Amendment Chap. 307, Laws 1869.
1875	326	Sec. 27 T. 31 N., R. 1 E. Sec. 21 T. 31 N., R. 1 E. Secs. 14 & 15 T. 32 N., R. 1 E.	Black-----	Roberts & Wheelan	No Limit---	Facilitate Log Driv- ing and all others	Mill Dam Act applies. Dams to be of a sufficient height to give a head of water not to exceed 10 ft. Amendment Mar. 28, Laws 1876, Chap. 265, Right to dam No. 1 on Sec. 14 T. 32 N., R. 1 E. and flow ageon Secs. 14 and 11 T. 32 N., R. 1 E. Right to dam No. 2 on Sec. 15 T. 32 N., R. 1 E. and flowage on Sec. 15 and 14 T. 32 N., R. 1 E. Right to dam No. 3 Sec. 14 T. 32 N., R. 1 E. and flow- age on Sec. 14 T. 32 N., R. 1 E. Right to dam No. 4 Sec. 34 T. 32 N., R. 1 E. and flow- age on Sec. 34 and 27 T. 32 N., R. 1 E. Right to dam No. 5 on Sec. 21 T. 31 N., R. 1 E. Flowage on Sec. 21 & 16 T. 31 N., R. 1 E. Right to dam No. 6 on Sec. 27 T. 31 N., R. 1 E. and flowage on Sec. 27 T. 31 N., R. 1 E. (All of the above dams in Taylor County). Dams not to interfere with roadbed of Wisconsin Central Railroad.

## CLARK COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1876	105	Sec. 17 T. 27 N., R. 1 E. Sec. 25 & Sec. 26 T. 28 N., R. 1 E. Sec. 36 T. 29 N., R. 2 W. Sec. 22 & Sec. 23 T. 29 N., R. 1 W.	North and South Forks at Popple & Bret Creek	D. S. Spaulding-----	15 Years-----	Facilitate Logging----	
1877	42	N. Branch Eau Claire	Eau Claire-----	W. A. Rust-----	No Limit----	Facilitate Log Driving	Act amends Chap. 219, Laws 1876, which held out inducements to any one who would improve the north branch of the Eau Claire River in Clark Co.
1877	43	S. Branch Eau Claire	Eau Claire-----	W. A. Rust-----	No Limit----	Facilitate Log Driving	Act amends Chap. 220, Laws 1876, which held out inducements to any one who improved the south branch of the Eau Claire River in Clark County.
1877	236	Sec. 10 T. 24 N., R. 3 W.	Wedges Creek----	James Hewitt-----	15 Years-----	Facilitate Log Driving	Right to maintain dam.
1877	267	None Specified	Cunningham Creek	Chauncy Blakeslee--	No Limit----	Facilitate Log Driving	All acts or parts of acts conflicting with this act are repealed.
1879	28	-----	O'Neill Creek----	W. T. Price-----	No Limit----	Improvement Navigation & Log Driving	Dam to be of necessary height.



## CLARK COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1879	127	-----	Cauley Creek---	G. H. Ray-----	No Limit---	Improvement Navigation & Facilitate Log Driving	Amendment Chap. 179, Laws 1879. Rights transferred to S. H. Reddan.
1880	171	From S. Line T. 26 N., R. 4 W.	Hay Creek, Branch of Eau Claire	Wm. A. Rust-----	No Limit---	Facilitate Log Driving	
1880	177	S. S. Line Sec. 7 T. 29 N., R. 4 W.	Otter Creek (Trib. of Wolf)	Delos Moon-----	No Limit---	Facilitate Log Driving	
1880	182	S. N. Line T. 29 N., R. 5 W.	Wolf River (Trib. N. Fork of Eau Claire)	Delos R. Moon-----	No Limit---	Facilitate Log Driving	
1880	303	Sec. 5 & Sec. 30 T. 23 N., R. 2 E.	Black River-----	Thomas J. LaFlesh--	10 Years----	Facilitate Log Driving	Chap. 6 Laws 1883 amends Sec. 1, Chap. 303, Laws 1880, by adding to the end of the Sec. "build one dam on Sec. 25, T. 24 N., R. 2 E." also Sec. 4 is amended in re-toll.
1903	243	N. Line City of Neillsville	Black-----	C. C. Sniteman-----	No Limit---	Hydraulic Supply Power for many Purposes	Dam near Foot Western Rapids. Height not to exceed 20 feet.
1881	161	N. E. ¼ S. E. ¼ Sec. 22 N. W. ¼ S. W. ¼ Sec. 23 T. 25 N., R. 3 W.	Wedges Creek--	James Hewitt-----	No Limit---	Facilitate Log Driving	Chap. 89, Laws 1882, amends by inserting in eighth line after the word "dam", "and also upon all logs cut in said township and banked upon said Wedges Creek below said dam and driven by the aid thereof", also by striking out the word "through" in second line of Sec. 4 and insert "by the aid of".

# Railroad Commission Report

## CLARK COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1882	270	S. W. ¼ S. W. ¼ Sec. 28 T. 27 N., R. 1 W.	Rock Creek-----	Phillip Rossmann-----	No Limit----	Power Manufacturing & Log Driving	
1883	209	6000 Ft. from where O'Neill's Creek enters Clark Co.	Black-----	James Hewitt-----	No Limit----	Power Manufacturing & Facilitate Log Driving	Subject to Chaps. 70 and 146 of Revised Statutes. Shall not exceed 10 ft. in height Amended Chap. 88, Laws 1885. Repealed Chap. 111, Laws 1893.
1887	299	Sec. 28 T. 29 N., R. 4 W.	Eau Claire, (N. Fork)	Jacob Bye-----	No Limit----	Boomage & Power--	Not to exceed 14 ft. in height. Not to interfere with Eau Claire Lumber Co.
1893	111	See Remarks-----	Black-----	M. C. Ring-----	No Limit----	Hydraulic & Boomage	May build dam across Black River, not to exceed 10 ft. in height at any point between where O'Neill's Creek empties into Black River in Town of Pine Valley, and present limit of Railway right of way across river.
1895	134	Between ¼ Line E. & W. through Sec. 22 T. 24 N., R. 2 W. & Sec. 26 T. 24 N., R. 2 W.	Black-----	L. B. Ring-----	No Limit----	Power Manufacturing & Boomage	Dam not to exceed 10 ft. in height. Amended Chap. 294, Laws 1901. Height of dam not to exceed 20 ft.
1905	470	Sec. 34 T. 27 N., R. 2 W.	Black-----	City of Greenwood--	No Limit----	Light, Heat & Pumping	Dam not to exceed 16 ft. above low water mark.
1895	172	T. 26 N., R. 2 W.	Black-----	E. E. Finney-----	No Limit----	Hydraulic & Manufacturing	

## COLUMBIA COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1848	P.142	Sec. 3, T. 12 N., R. 10 E.	Fox-----	J. Sprague Pardee---	No Limit---	Power-----	Mill Dam Act effective. Dam not to exceed 7 ft. above high water.
1853	308	N. W. ¼ S. 6 T. 12 N., R. 12 E.	N. Duck Creek-	Evan Edwards-----	No Limit --		
1855	330	Sec. 9, 10, 15, T. 13 N., R. 6 E. Also Sauk County	Wisconsin-----	Wis. River Hyd. Co.	No Limit---	Hydraulic & Boomage	Amendment to Chap. 330, Laws 1855 in Chap. 508, Laws 1856, gives company right to build dam on Sec. 4, T. 13 N., R. 6 E. Conflicting acts repealed. Chap. 68, Laws 1860, repeals Chap. 508. Lock not less than 150 x 45 feet. Court may order dam out on failure to pay damages 60 days after award. Repealed Chap. 70 Mar. 31, 1860.
1855	366	Within 3 miles of Portage	Wisconsin-----	Portage Manufacturing Co.	No Limit---	Manufacturing----	Right to take water from Wisconsin River by canal for power; not to build dam in Wisconsin River or obstruct in any way.
1855	228	Sec. 20, T. 12 N., R. 9 E.	Baraboo-----	Jno. M. Crawford----	No Limit---		Height not to exceed 7 ft. Slide not less than 125 ft. x 35 ft.
1856	534	Sec. 34, T. 13 N., R. 11 E. T. 12 N., R. 11 E., Lot 3 & 4	Across Ravine---	Peter Hauston-----	No Limit---	Hydraulic	

## COLUMBIA COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1866	588	Secs. 2, 3, 10, 11, T. 13 N., R. 7 E.		Briggsville W. P. & Improvement Co.	No Limit---	Power-----	Rights within Village of Briggs-ville only. Amended by Chap. 221, Laws 1869, authorizing races, canals or water courses in Columbia Co.
1891	284	In Town of Newport	Wisconsin-----	Town of Newport---	No Limit---	Protect Highways, Improvement Navigation and Reclaim Land. Hydraulic-----	Mill Dam Act applies.
1893	118	Secs. 3, 4, 9, 10, T. 13 N., R. 6 E.	Wisconsin also Sauk County	Kilbourn Manufacturing Co.	No Limit---		Successors or assigns granted to complete the water power by raising the dam a sufficient height but not to exceed 10 ft. above usual low water mark. Original grant given to Kilbourn Manufacturing Co., whenever organized in Chap. 424, Laws 1866. Gave right to build this dam. Height not to exceed 3 ft. above usual low water mark.
1907	333	Sec. 9, T. 13 N., R. 9 E. Lot 5	Neenah Creek---	A. P. Christianson--	No Limit---	Power-----	Wing dam not over 2 ft. in height.
1907	189	Sec. 25, T. 10 N., R. 6 E. Also Sauk Co.	Wisconsin-----	J. S. Tripp et al----	No Limit---	Power & Improvement of Navigation.	Subject to Chap. 350, Laws 1905. To be started within 4 years. Rights cease if operation ceases for a continuous period of 2 years. Height not to exceed 18 feet.

CRAWFORD COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1856	136	T. 7 N., R. 4 W.----	Kickapoo-----	Syrus Woodmen-----	No Limit----	Hydraulic-----	On any land owned.
1880	7	Sec. 28, T. 10 N., R. 4 W. Lots 1 & 2	Kickapoo-----	Thomas Gay, James A. Robb, Sam H. Robb.	No Limit----	Hydraulic & Log Driving	
1880	103	N. W. ¼ N. E. ¼ Sec. 31 T. 11 N., R. 3 W.	Kickapoo-----	Atley Peterson----- Peter Hooverson	No Limit----	Hydraulic & Log Driving	

## DANE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1846	P.151	Outlet of Fourth Lake	Catfish or Yahara	Madison Village	No Limit	Pwr. & Improvement of Navigation	
1865		Between Lake Mendota, Monona, Waukesha and Kegonsa.		Lake Mendota & Catfish River Canal Co.	No Limit	Pwr. & Improvement of Navigation	Not to raise or lower levels of lakes. Work to be commenced within five years.

## DOOR COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1878	163		Stoney Creek & Tributaries	C. L. Fellows	No Limit	Facilitate Log Driv- ing	Must pay damages caused by dam.
1885	70	E. 1/2 of S. W. 1/4 Sec. 29 T. 26 N., R. 25 E.	Ahnapee	A. Fetzner & Others	No Limit	Hydraulic & Power	Subject to Chap. 70 and 146, Revised Statutes. Mill dam act applies.

## DODGE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1839	49	Sec. 6 or 7, T. 11 N., R. 16 E.	Rock-----	Alb. G. Ellis et al--	No Limit---	Hydraulic-----	Locks for boats, etc.
1845	P. 99	E. ½ Sec. 9, T. 10 N., R. 16 E.	Rock-----	Jno. Hustis-----	No Limit---	Power-----	Eminent Domain as per mill dam act. Mill and mill dam act effective.
1855	142	S. W. ¼ Sec. 25, T. 10 N., R. 17 E.	Rubicon-----	Silas D. Whitlick---	No Limit---	Hydraulic	
1855	385	S. E. ¼ Sec. 35, T. 10 N., R. 17 E.	Rubicon-----	Delos E. Durkee-----	No Limit---	Hydraulic	
1856	511	N. W. ¼ Sec. 35, T. 13 N., R. 13 E.	-----	Geo. W. & J. L. Brower	No Limit---	Hydraulic-----	Dam to be located at or near site of their present dam. Commissioners to determine height, etc.
1857	412	W. ½ N. W. ¼ Sec. 4, T. 11 N., R. 14 E.	-----	Gohn C. Hall-----	No Limit---	Hydraulic-----	Commissioners to determine height, etc.
1858	278	Sec. 26 or 35, T. 13 N., R. 16 E.	Patrick Creek---	James Hart-----	No Limit---	Hydraulic-----	Also construct race in Sec. 35, not to exceed 4 rods long. Height of dam not to exceed 13 feet above ordinary water level.
1866	71	T. 9, 10, 11 N., R. 17, 18 E. *	Rubicon Pike, Lake & Trib.	Rubicon Hydraulic Co.	No Limit---	Hydraulic-----	Mill dam act effective for damages. Amended Chap. 201, Laws 1867, re damages. Amended Chap. 144 Laws 1868 re damages.
1867	454		Rock-----	Mechanics Union Manufacturing Co.	No Limit---	Power-----	Eminent Domain granted for state lands only.

## DOUGLAS COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1873	275	Sec. 35, T. 45 N., R. 13 W.	Moose-----	Louis E. Thrinus----	15 Years----	Log Driving-----	Slide for logs. May collect toll. Gates not to be closed during July, August and September.
1881	311	Below outlet of Upper Aminican Lake. T. 46 N., R. 13 W. or at other places on said river in said County for reservoirs, etc.	Aminican-----	Robt. L. Henry et al-----	No Limit----	Facilitate Log Driving and Navigation.	Waste gates to aid navigation below dams. May collect toll.
1882	186	N. W. $\frac{1}{4}$ S. E. $\frac{1}{4}$ Sec. 13 T. 27 N., R. 3 E.	Big Eau Pleine----	Christian Weber-----	No Limit----	Power & Manufacturing.	Mill dam act applies. Dam shall not exceed 8 feet in height.
1882	183	Sec. 1, T. 53 N., R. 10 W.	Totogaticanse----	J. E. Glover et al----	15 Years----	Logging-----	May collect toll. Shall not raise water to exceed 12 ft.
1882	185	Sec. 11, T. 43 N., R. 10 W.	Totogaticanse----	J. E. Glover et al----	15 Years----	Logging-----	May collect toll. Shall not raise water to exceed 12 ft.
1883	344	S. W. $\frac{1}{4}$ Sec. 30, T. 43 N., R. 10 W.	Totogaticanse----	S. L. Cowan et al----	No Limit----	Log Driving-----	Shall not raise water over 12 ft.
1889	446	Below T. 45 N., R. 13 W., where river crosses west line Sec. 6, T. 44 N., R. 11 W. and west line T. 43 N., R. 13 W.	Moose-----	W. Sauntry-----	No Limit----	Logging-----	May collect toll. Not over three dams on either river. Dams on Moose River not to raise water over 14 ft. Dams on St. Croix River not to raise water over 12 ft.



DOUGLAS COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1891	110	N. W. ¼ - S. E. ¼ Sec. 32, S. W. ¼ - N. W. ¼ Sec. 27, N. W. ¼ - S. E. ¼ Sec. 22, S. W. ¼ - S. W. ¼ Sec. 14, all in T. 44 N., R. 15 W.	Spruce-----	W. Sauntry-----	No Limit---	Log Driving-----	May build dam at each of four points. Repealed June 25, Chap. 356, Laws 1907.
1891	111	See Remarks-----	Moose-----	W. Sauntry-----	No Limit---	Improvement of Navigation.	May build three dams at any points between mouth of river and point where east line of T. 45 N., R. 13 W. crosses river in Douglas County. Dam to raise water not more than 14 ft. Repealed Chap. 293, Laws 1907.
1897	266	Sec. 10, T. 47 N., R. 12 W. or to mouth of said river, Sec. 35, T. 49 N., R. 12 W.	Middle-----	Kirby Thomas et al.	No Limit---	Power & Logging---	Slides for Logs, etc.
1903	181	Sec. 22, T. 47 N., R. 10 W.	Brule-----	Alvin A. Muck-----	No Limit---	Hydraulic & Improvement of Navigation.	Height not to exceed 36 ft. above low water. Repealed Mar. 28, 1907, Chap. 31

# Railroad Commission Report

## DUNN COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1855	251	Sec. 24 T. 26 N., R. 13 W. Lot 1.	Red Cedar-----	John H. Knapp-----	No Limit----	Hydraulic-----	Slide not less than 80 ft. by 18 ft. Amendments Apr. 5, 1866, Chap. 286--turned over to Chipewa River Improvement Co. No dam built.
1861	36	Sec. 26 T. 28 N., R. 13 W. Lots 2 & 3	Red Cedar-----	J. H. Knapp et al----	No Limit----	Hydraulic-----	Slides or chutes for logs, etc. not less than 20 ft. wide. Dam not to be raised so high as to overflow any lands owned by any person or persons on said river.
1861	42	Sec. 34 T. 27 N., R. 13 W. Lots 2, 3, 5, 7 & 8	Red Cedar-----	B. B. Downs-----	No Limit----	Hydraulic-----	Dam to be 8 ft. in height above the ordinary height of water.
1866	99	S. ½ Sec. 20 T. 29 N., R. 12 W.	Red Cedar-----	John Knapp et al----	No Limit----	Hydraulic & Logging	No dam built.
1866	284	-----	Eau Claire & Tributaries	Eau Claire Lumber Co.	-----	Power. -----	Amendment Chap. 307, Laws 1869.
1880	76	Sec. 13 T. 26 N., R. 13 W.	Red Cedar-----	Knapp Stout Co.-----	No Limit----	Hydraulic & Log Driving	
1883	3	Sec. 6 T. 28 N., R. 12 W. Lots 2 & 6	Red Cedar-----	Knapp Stout Co.-----	No Limit----	Power Manufacturing & Log Driving	
1897	234	S. E. ¼ N. W. ¼ Sec. 26 T. 28 N., R. 14 W.	Spring Brook, Tributary of Gilbert Creek	M. H. Wilcox-----	No Limit----	Fish Culture-----	Dam not to exceed 5 feet in height.

DUNN COUNTY--Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1899	134	N. W. ¼ N. E. ¼ Sec. 12 T. 27 N., R. 11 W.	Elk Creek-----	J. E. Rork-----	No Limit---	Milling & Manufac- turing	Must pay damages for flowage.
1899	227	N. E. ¼ S. W. ¼ Sec. 12 T. 27 N., R. 11 W.	Elk Creek-----	J. P. Ausman-----	No Limit---	Milling & Manufac- turing	Cannot flow lands without just compensation according to law governing such cases. Not to interfere with rights of J. E. Rork on Sec. 12.
1903	210	Sec. 8 T. 29 N., R. 11 W.	Red Cedar-----	Dan C. Baldwin et al	No Limit---	Hydraulic Municipal Lighting	
1905	69	N. E. ¼ N. E. ¼ Sec. 24 T. 27 N., R. 11 W.	Elk Creek-----	T. B. Wilson-----	No Limit---	Not Specified-----	Chap. 350, Laws 1905.

EAU CLAIRE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1866	284	-----	Eau Claire & Tributaries	Eau Claire Lumber Co.	-----	Power_ -----	Amendment Chap. 307, Laws 1869.
1869	195	Sec. 14 T. 27 N., R. 10 W.	Trout Creek-----	John S. Sherman-----	No Limit---	Fish Culture	
1875	333	Within City Limits--	Chippewa-----	City of Eau Claire--	No Limit---	Not Specified-----	Dam not to exceed 16 ft. in height. Right to lease power or part .of power not needed by city for hydraulic purposes, for Manufacturing purposes. Channel of river to remain unobstructed. Amendment Mar. 28, 1876, Chap. 231 to Chap. 333. Purpose of dam for City Water-works. Can lease surplus water power, flowage, slack water or accumulation of water or part of for Manufacturing or other purposes not needed for water works 'or navigation. Lock not less than 270 feet long by 40 ft. wide. Amendment Mar. 19, 1880, Chap. 181 to Chap. 231 (in regard to manner of fixing rent of water power). Amendment Mar. 20, 1880, Chap. 263 to Sec. 1 Chap. 231. (Gives city right to grant right to build and own water works and in so doing use dam for any purpose). Amendment Feb. 18, 1885, Chap. 6 to Chap. 236. [Height of dam not to exceed 18 ft. above low water mark but not to be of greater height than dam has been or is now maintained.]

## EAU CLAIRE COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1878	337	Sec. 5 or 8 T. 26 N., R. 6 W.	Eau Claire-----	Wm. Rust-----	No Limit---	Improvement Navi- gation Facilitate Log Driving	Dam at least 18 ft. high from low water mark. Can build side dams on river.
1880	178	S. of N. Line T. 27 N., R. 5 W.	Muskrat Tribut- ary of Eau Claire	Delos R. Moon-----	No Limit---	Facilitate Log Driv- ing	
1891	313	See Remarks-----	Chippewa-----	Wm. F. Bailey et al	No Limit---	Log Driving-----	May build dam or dams not to exceed 7 feet in height on Chip- pewa River between Eau Claire and Chippewa Falls. Rights cease if dams are not con- structed in three years.
1907	385	Sec. 10 T. 26 N., R. 5 W.	Eau Claire, North Fork	I. Shroudy-----	No Limit---	Power & any Law- ful Purpose Whatso- ever	Subject to Chap. 350, Laws 1905. To be built within 4 yrs. of passage of act. Rights to be lost if operation ceases for a continuous period of 2 years.

## FLORENCE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1883	132	Sec. 13 T. 38 N., R. 15 E.	Poplar-----	Halver & John Anpunson	No Limit---	Facilitate Log Driving	Shall also improve Poplar River to its mouth at Pine River
1905	415	Sec. 28 T. 39 N., R. 18 E.	Pine-----	E. W. Hopkins-----	No Limit---	Hydraulic & Improvement Navigation	Dam not to exceed height greater than sufficient to raise water 32 feet above normal level at west line of Sec. 28. Amend. Chap. 359, Laws 1907. (Purpose also for Manufacturing; elec. power and other law-ful; extends time to construct to 6 years).
1907	384	Sec. 9, 10, 14 & 15 T. 40 N., R. 18 E.	Brule-----	J. J. Pontbriand-----	No Limit---	Power	
1907	409	Sec. 2 or 12 T. 39 N., R. 19 E.	Menominee-----	Max Sells-----	No Limit---	Power-----	Not to raise water higher than 32 feet above normal at east and west quarter line, Sec. 2 T. 39 N., R. 18 E.

## FOND DU LAC COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1851	206	Sec. 25 & 26 T. 14 N., R. 19 E.	Outlet of Long Pond	Harrison C. Hobart et al	No Limit---	Hydraulic	
1855	288	Sec. 34 T. 15 N., R. 19 E.	Mullet-----	C. D. Gordon-----	No Limit---	Hydraulic-----	May raise water in Mullet Lake four feet above ordinary level.

## FOREST COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1887	444	Sec. 28 or 33 T. 37 37 N., R. 15 E.	Peshtigo-----	G. H. Hall-----	No Limit---	Power & Other Pur- poses	
1887	532	S. ¼ Sec. 5 T. 39 N., R. 11 E.	Eagle-----	J. Underwood et al--	No Limit---	Logging-----	May collect toll.
1887	539	S. 25, 35 or 36 T. 37 N., R. 13 E.	Peshtigo-----	Sam Shaw-----	No Limit---	Power & Other Pur- poses	
1891	229	See Remarks-----	Pine, North Branch	Henry Collette et al	No Limit---	Log Driving-----	Build dams—From Butter- nut Lake to where north branch joins south branch. One dam already built here legalized.
1891	238	-----	Pine-----	Bertin Ramsey et al	No Limit---	Log Driving-----	Legalizes a dam already built.
1895	234	Sec. 28 & 33 T. 37 N., R. 13 E.	Peshtigo, Middle Branch	F. E. Cook-----	No Limit---	Manufacturing & Other	Sec. 1777, Revised Statutes.
1897	211	S. E. ¼ S. E. ¼ Sec. 25, S. E. ¼, N. E. ¼ Sec. 32 T. 36 N., R. 14 E.	Rat-----	Wm. Fellows-----	No Limit---	Facilitate Log Driv- ing	Dam on Sec. 32 not to exceed 7 foot head. Dam on Sec. 25 with not more than 5 foot head. Amendment Chap. 122, Laws 1901, in regard to flowage rights.
1901	262	-----	Lilly-----	W. H. Dick-----	No Limit---	Log Driving	

GRANT COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1866	183	Sec. 26, 35 & 36 T. 8 N., R. 3 W.	Crooked Creek Sanders Creek	Dan'l. & Chas. Syl- vester & Vil. of Bos- cobel	No Limit---	Hydraulic Fire Pro- tection & Other Pur- poses	Must be in operation within two years. Amendment Chap. 144, Laws 1872, grants right to erect custom flour mill. Also method to follow in suing for damages.
1869	338	Sec. 27 T. 8 N., R. 3 W.	Race from San- ders Creek to Watkins Slough	Edward Palmer et al	No Limit---	Power-----	Must pay damages for flowage.



## GREEN COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1844	P. 71	Sec. 28, T. 3 N., R. 9 E.	Sugar	Jas. Campbell and Thos. Stewart	No Limit	Power	Mill Dam Act applies.
1847	P. 46	S. E. ¼ Sec. 15, T. 2 N., R. 9 E.	Sugar	Wm. Jones	No Limit	Power	Mill Dam Act applies.
1848	P. 68	Sec. 20 & 21, T. 1 N., R. 6 E.	Pecatonica	C. C. Washburn and Cyrus Woodman	No Limit	Power	Mill Dam Act applies. Dam not to exceed 10 ft. above high water.
1848	106	Sec. 31 & 32, T. 1 N., R. 6 E.	Pecatonica	Edw. S. Hanchett et al	No Limit	Power	Mill Dam Act effective. Chap. 88, Laws 1867, grants powers in act of 1848 to assigns named. Dam not to exceed 6 ft. above low water.
1854	111	Sec. 26, T. 2 N., R. 9 E.	Sugar	Jos. Goss	No Limit	Hydraulic	Dam to be 8 ft. above high water mark.
1855	214	Sec. 2 & 3, T. 1 N., R. 9 E.	Sugar	Jacob Teneyck	No Limit	Hydraulic	At any point not used by other grants.
1859	52	Sec. 14, 15, 23, 24 & 25, T. 2 N., R. 9 E.	Sugar	Brodhead Hydraulic Co.		Hydraulic	Given right to dig or construct a canal or race from Sugar Riv. into village of Brodhead, water to be used for power. May obtain land for canal through three arbitrators - pay damages.

GREEN LAKE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1852	403	N. W. ¼ Sec. 14, T. 14 N., R. 12 E.	Grand-----	Jno. M. Seward-----	No Limit---	None Specified	
1852	501	N. E. ¼ N. E. ¼ Sec. 7, T. 14 N., R. 13 E.	Grand-----	Jno. M. Seward-----	No Limit---	None Specified	

IRON COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1895	60	Any point in Iron County	Turtle River----	Henry Sherry A. L. Maxwell	No Limit---	Hydraulic. Manufacturing Log Driving & Improvement of Navigation.	
1903	244	T. 43 & 44 N., R. 3 E.	Long Lake Creek	J. H. Palmer-----	No Limit---	Log Driving-----	At most suitable point.
1905	400	W. ½ Sec. 4 T. 41 N., R. 2 E.	Flambeau-----	C. A. Gesell-----	No Limit---	Improvement of Navigation and Hydraulic	Dam not to exceed 35 ft. in height above bed of stream. Amend. Chap. 361, Laws 1907, June 25th transfer rights etc. to State Land & Power Co. Extends time of construction to six years.

## JACKSON COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1853	208	E. ¼ S. E. ¼ Sec. 15, T. 21 N., R. 4	Black	Jacob Spalding City of Black River Falls. J. J. McGilloway, Suc'r.	No Limit	Hydraulic	Dam not to exceed 11 ft. from the water mark. Chap. 491, Laws 1905, increases height to 15 ft. Chap. 177, Laws 1907, repeals Chap. 491, Laws 1905.
1861	52	Sec. 33, T. 21 N., R. 4 W., Lots 4 & 5		Andrew Sheppard and John Valentine	No Limit	None Specified	Dam not to interfere with any dam on river or tributary, and not to interfere with prior rights.
1864	447	Near mouth of River	Black & Lakes near Mouth	Black River Improvement Co.	25 Years	Improvement Navigation	
1866	82	T. 22 N., R. 5 W.	Trempealeau	Harvey T. Runsey	No Limit	Hydraulic & Logging	Mill Dam Act effective. This act repealed by Chap. 426, Laws 1867.
1880	303	Sec. 4, T. 22 N., R. 2 E.		Thomas J. La Flesh	10 Years	Facilitate Log Driving	Chap. 6, Laws 1883, amends Sec. 1 Chap. 303, Laws 1880, by adding "build one dam on Sec. 25, T. 24 N., R. 2 E." also Sec. 4 is amended in re toll.
1883	317	T. 20 N., R. 2 W.	Robinson's Creek	H. B. Mills	No Limit	Facilitate Log Driving	
1885	371	T. 21 N., R. 2, 3 & 4 W.	Lewis Creek	O. Darwin	No Limit	Logging	Grant permits more than one dam. May collect tolls.
1887	251	T. 20 N., R. 1, 2 & 4 W.	Robinson Creek	H. B. Mills	No Limit	None Specified	One or more dams. May collect toll.

JACKSON COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1887	438	N. ½ Sec. 22, T. 21 N., R. 4 W.	Black-----	D. Spaulding et al--	No Limit----	None Specified-----	Not to exceed 7 ft. in hieght.
1903	182	Sec. 1 T. 21 N., R. 4 W. Lots 2 & 8	Black-----	La Crosse & Black River R. R. Co.	No Limit----	Hydraulic & Improvement Navigation	Height of dam 30 feet. Not to interfere with rights in Chap. 208, Laws 1853, nor with S. S. Owen Co. & J. J. McGillivray.

## JEFFERSON COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1839	45	Sec. 4, T. 8 N., R. 15 E.	Rock-----	C. F. H. Goodhue J. Rogan	No Limit---	Hydraulic-----	Locks within six years after passage of act or when Rock River becomes navigable. Not less than 90 ft. long x 15 ft. wide.
1841	69	Sec. 19, T. 8 N., R. 16 E.	Rock-----	W. P. Owen-----	No Limit---	Hydraulic-----	Locks for boats whenever river is made navigable. Not less than 90' x 15'. Dam not to exceed 4' above high water.
1842	P. 9	Sec. 2 or 11, T. 6 N., R. 14 E.	Rock Johnson's Rapids	D. G. Kendall et al	No Limit---	Improvement of Navigation.	Dam not to exceed 4 ft.
1842	P. 44	Sec. 11, T. 6 N., R. 14 E.	Crawfish River--	Lucius Barba E. G. Darling	No Limit---	Improvement of Navigation Hydraulic	Dam not to exceed 4 ft. above high water.
1844	P. 37	W. ½ Sec. 3, T. 8 N., R. 15 E.	Rock-----	Calvin & Jos. Bon-ton	No Limit---	-----	Locks when necessary. Mill Dam Act applies.
1847	P. 16	Sec. 8 & 9, T. 8 N., R. 15 E.	Rock-----	L. E. Boomer et al--	No Limit---	Power-----	Dam not to exceed 6' above high water. Locks where stream is navigable. Mill Dam Act.
1848	P. 145	Sec. 4, T. 7 N., R. 14 E.	Crawfish-----	S. Norman Pratt----	No Limit---	Power-----	Mill Dam Act effective. This act repealed by Chap. 317, Laws 1885.
1849	78	Sec. 4, T. 5 N., R. 14 E.	Rock-----	Syrus Curtis-----	No Limit---	Power	
1907	549	W. ½ Sec. 3, T. 8 N., R. 15 E.	Rock-----	Watertown G. & E. sucrs. to Calvin et al 1844 - P. 37	No Limit---	-----	Subject to Chap. 350, Laws 1905. Approval of City pre-requisite. To be started within 2 years. Rights cease if operation ceases for continuous period of 2 years. Additional height of 3 ft. allowed over old dam.

# Railroad Commission Report

## JUNEAU COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1856	176	S. W. $\frac{1}{4}$ N. W. $\frac{1}{4}$ Sec. 7, T. 15 N., R. 4 E.	Lemonweir-----	Milton H. Maughs---	No Limit---	Benefit of Public----	Commissioners to determine height etc.
1857	170	-----	Yellow-----	Yellow River Improvement Co.	No Limit---	Improvement of Navigation and Logging	See Wood County under Mar. 2, 1857, for remarks. Yellow River Improvement Co.
1857	237	Sec. 7 & 8, T. 16 N., R. 3 E.	Lemonweir-----	Amoca Wilson-----	No Limit---	Hydraulic-----	Height of dam not to exceed 10 ft. above ordinary water level.
1857	335	E. $\frac{1}{4}$ N. E. $\frac{1}{4}$ Sec. 16, T. 15 N., R. 4 E.	Lemonweir-----	Newell Dustin-----	No Limit---	None Specified-----	Height of dam not to exceed 4 ft. and 7 in. above natural work at bottom of flume, at mill located at the N. E. $\frac{1}{4}$ N. E. $\frac{1}{4}$ Sec. 16, T. 15 N., R. 4 E.
1867	334	Lemonweir-----	Lemonweir-----	Lemonweir Improvement Co.	No Limit---	Improvement of Navigation	Chap. 413, Laws 1869, repeals Sec. 5, Laws 1867, Re-tolls. Chap. 186, Laws 1870, repeals Sec. 5 Laws 1867, Re-tolls.
1868	489	Town of Kildare----	Lyndon Creek---	J. Fitzgerald, et al--	No Limit---	Power	
1897	206	Sec. 33, T. 19 N., R. 2 E.	Beaver Creek---	J. F. Hamilton et al	No Limit---	Not Specified-----	Dam not to exceed 12 ft. in height from bed of stream.

KENOSHA COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1853	226	Sec. 30, T. 1 N., R. 20 E.	Fox-----	Ashel W. Benham---	No Limit---	None Specified	

KEWAUNEE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1861	59	Sec. 35 T. 24 N., R. 23 E.	Scarboror-----	S. R. Clauson et al.--	No Limit---	None Specified-----	Authorized to keep and maintain dam. Damages must be paid for flowage.
1878	163	-----	Stony Creek and Tributaries	C. L. Fellows-----	No Limit---	Facilitate Log Driving	Must pay damages caused by dam.
1881	58	S. E. ¼ Sec. 14 T. 23 N., R. 24 E.	Kewaunee-----	Wyota Stronsky-----	15 Years----	Facilitate Log Driving	Chap. 140 Laws 1883, amends by changing the words "80 rods" in the 14th line to "60 rods."
1883	65	S. W. ¼ S. E. ¼ Sec. 25 T. 24 N., R. 23 E.	Scarboror Creek--	Geo. Grimmer et al.--	No Limit---	Power & Facilitate Log Driving	

## LA CROSSE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1853	177	N. E. ¼ N. E. ¼ Sec. 34, S. E. ¼ S. E. ¼ Sec. 27 T. 17 N., R. 6 W.	La Crosse-----	Monroe Palmer-----	No Limit----	Hydraulic-----	Dam not to exceed 8 ft. from low water mark.
1854	231	N. E. ¼ Sec. 34 T. 17 N., R. 6 W., N. E. ¼ S. E. ¼ Sec. 27	La Crosse-----	Monroe Palmer-----	No Limit----	Hydraulic-----	Dam to be 10 ft. from low water mark. Chap. 367, Laws 1856, amends Sec. 1, striking out word "north" and changing it to "south".
1856	397	N. E. ¼ S. W. ¼ Sec. 24, T. 18 N., R. 7 W.	Fleming's Creek	Lloyd L. Lewis-----	No Limit----	Hydraulic-----	Height of dam not to exceed 12 ft.
1856	397	N. E. ¼ S. W. ¼ Sec. 18, T. 18 N., R. 6 W.	Fleming's Creek-	Lloyd L. Lewis-----	No Limit----	Hydraulic.	
1864	447	Near Mouth of River. Also Jackson, Trempealeau and La Crosse Cos.	Black River and Lakes near mouth	Black River Improvement Co.	25 Years-----	Improvement of Navigation	Right to build dam, not granted by original act, Chap. 84, Laws 1864, incorporating this company Chap. 447, Laws 1866, amends Chap. 84, Laws 1864, in regard to stock and tariff gives right to build dam. Amended to Sec. 12, Chap. 84, P. & L. Laws 1864, Chap. 225, Laws 1880, right to close up meandered channel at the head of the Black Snake and in regard to settlement with owner of property. Amend. to Chap. 84, Laws 1864, etc. Chap. 263, Laws 1882, time extended to 25 years, from and after Mar. 1, 1889, and right to increase stock.



LA CROSSE COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1903	206	Sec. 1 or 2, T. 18 N., R. 8 W., Lot 5 Sec. 1 Lot 7 Sec. 2.	Black Also Trem- pealeau County .	La Crosse & North- ern Railway	No Limit---	Hydraulic & Impro- vement of Naviga- tion.	Dam to be constructed within six years. Height of dam not to exceed 24 ft. above low water.
1905	399	S. W. ¼ Sec. 33, T. 17 N., R. 6 W.	La Crosse-----	Steven Steensen-----	No Limit---	Milling & Manufac- turing.	Dam not to exceed 12 ft. above low water mark.

## LAFAYETTE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1848	P.132	Sec. 1, T. 1 N., R. 5 E.	Pecatonica-----	Samuel Young-----	No Limit---	Power-----	Mill Dam Act effective.
1849	200	Sec. C, T. 2 N., R. 3 E.	Pecatonica-----	Jno. M. Keep-----	No Limit---	Power-----	Dam not to exceed 8 ft. above low water.
1851	36	Sec. 20, T. 3 N., R. 3 E.	Pecatonica-----	Richard H. McGoon--	No Limit---	None Specified-----	Fishways to be 12 ft. wide, with fall of 3 ft. in 12 ft.
1851	259	N. W. ¼ Sec. 1, T. 2 N., R. 3 E.	Pecatonica-----	Samuel George-----	No Limit---	Hydraulic-----	Dam 8 ft. high. Repealed 1857 Chap. 159.
1853	212	Sec. 20, T. 3 N., R. 3 E.	Pecatonica-----	Richard H. McGoon--	No Limit---	Hydraulic-----	Dam to be 10 ft. high.
1853	376	Sec. 3, 4, 9 or 10, T. 1 N., R. 5 E.	Pecatonica-----	Jno. W. Stewart----	No Limit---	Hydraulic-----	Chap. 187, Laws 1873, amends this act by striking out the words: "or 10", making the Sec. read: "Secs. 3, 4, 9". Chap. 10, Laws 1874, repeals entire act.
1855	188	Sec. 1 or 2, T. 1 N., R. 4 E.	Pecatonica-----	Ezra Wescott-----	No Limit---	Hydraulic-----	Height of dam not to exceed 8 ft. above high water. Repealed Feb. 15, 1870, Chap. 48.
1859	150	Sec. 8, T. 3 N., R. 3 E.	None named-----	Calamine Flouring Co.	None Specified	Hydraulic-----	This act is an amendment to Chap. 74, Laws 1853, incorporating the Ellis Level Mining same incorporators with some additional names. This is the original dam grant.

## LAFAYETTE COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1860	74	Sec. 11, T. 1 N., R. 5 E.	Pecatonica-----	Wm. Knowles-----	No Limit---	Hydraulic-----	Dam not to exceed 4 ft. above high water mark. Dam not to interfere with prior rights on river or tributaries.
1864	389	Sec. 4, T. 1 N., R. 4 E.	Pecatonica-----	Satterlee-Warden-----	No Limit---	Hydraulic-----	Mill Dam Act applies.
1870	48	Sec. 1 & 2, T. 1 N., R. 4 E	Pecatonica-----	Warden-Satterlee-----	No Limit---	Hydraulic-----	Height of dam not to exceed 8 ft. above low water. Mill Dam Act applies.
1870	421	N. E. ¼ Sec. 10, T. 4 N., R. 2 E.	Pecatonica-----	Chas. Sherman-----	No Limit---	None Specified-----	Dam not to raise water more than 10 feet above ordinary stage.
1871	144	See Remarks-----	Pecatonica-----	Darlington W. P. Improvement Co.	No Limit---	Hydraulic-----	May build dam at or within town of Darlington.

## LANGLADE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1882	292	E. ¼ N. E. ¼ Sec. 30 T. 31 N., R. 11 E.	Spring Brook-----	James H. Weed et al	No Limit---	Facilitate Log Driving	Subject to Chap. 70 Revised Statutes. Dam shall not back water farther up stream than to the bridge on which N. & S. road from Antigo to Wausau crosses said Spring Brook.
1883	259	W. ¼ N. E. ¼ N. Sec. 29 T. 31 N., R. 11 E.	Spring Brook-----	Lovis Navotney-----	No Limit---	-----	Subject to Chap. 70 Revised Statutes 1878.
1885	372	S. W. ¼ N. E. ¼ Sec. 30 T. 32 N., R. 11 E.	Deer Brook, Tributary of Eau Claire	M. Harlowe et al-----	No Limit---	Regulate Water Flow	May collect toll.
1901	262	-----	Lilly-----	W. H. Dick-----	No Limit---	Log Driving	
1905	457	E. ¼ S. W. ¼, Sec. 10 T. 31 N., R. 14 E.	Wolf-----	E. H. Van Ostrand--	No Limit---	Improvement of Navigation & Logging	Dam not to exceed 26 feet in height. May sell, lease or use surplus water power. Slides for logs. No toll. To be constructed within four years.
1907	404	S. ¼ of S. ¼ Sec. 25 T. 31 N., R. 14 E., N. ¼ Sec. 31, T. 31 N., R. 15 E.	Wolf-----	E. P. Sherry-----	No Limit---	Power-----	Two dams. Subject to Chap. 350, Laws 1905. To be started within 2 years. Rights to cease if operation ceases for a continuous period of two years. Neither dam to exceed 35 ft. above low water mark.

# LINCOLN COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1880	63	S. E. ¼ S. W. ¼ Sec. 9 T. 34 N., R. 4 E.	Spirit	James McCrossen	No Limit	Facilitate Log Driving	
1880	102	N. W. ¼ Sec. 10 T. 34 N., R. 4 E.	Spirit	K. A. Ostegreen	No Limit	Hydraulic	Dam shall not exceed 16 ft. in height. Mill Dam Act applies.
1880	151	Sec. 13 T. 32 N., R. 7 E. Sec. 14 T. 33 N., R. 8 E.	Prairie	Thomas B. Scott	No Limit	Facilitate Log Driving	
1880	168	N. E. ¼ Sec. 30 T. 33 N., R. 6 E.	Wisconsin	Peter B. Champaign	No Limit	None Specified	
1880	255	W. ¼ Sec. 14 T. 33 N., R. 8 E.	Prairie	Abel Neff	No Limit	Hydraulic	
1881	160	Sec. 22 T. 31 N., R. 7 E. Sec. 9 T. 31 N., R. 8 E. Sec. 28 & 31 T. 32 N., R. 9 E.	Pine	John Ross J. E. Leahy M. P. Bube	No Limit	Facilitate Log Driving	Clear channel from Sec. 28 T. 32 N., R. 9 E.
1883	170	N. W. ¼ N. E. ¼ Sec. 1 T. 31 N., R. 5 E.	Copper	J. F. Ellis et al	No Limit	Power Manufacturing Flooding & Booming	
1883	355	Sec. 30 T. 40 N., R. 8 E. Sec. 18 T. 39 N., R. 8 E.	St. Germans Creek	John Arpin et al	No Limit	Improvement of Navigation	May enforce liens as provided in Chap. 143 revised statutes. Two dams provided.
1887	12	Sec. 10 T. 34 N., R. 6 E.	Wisconsin	W. Bradley	No Limit	Power, Flooding & Boomage	Not less than 12 ft. or more than 15 ft. above low water mark.

## LINCOLN COUNTY—Continued

Year	Ch.	Location	River	'Grantee	Duration	Purpose	Remarks
1887	41	Sec. 4 or 9 T. 35 N., R. 6 E.	Tomahawk-----	C. Drummond et al--	No Limit----	Power & Other Purposes	May collect toll.
1887	346	S. W. ¼ Sec. 28 T. 35 N., R. 6 E.	Tomahawk-----	D. Arpin et al-----	No Limit----	Logging & Pr-----	Not to exceed 12 ft. in height. Mill Dam Act applies.
1889	398	Sec. 27 T. 35 N., R. 5 E.	Little Somo-----	J. Woodlock-----	No Limit----	None Specified-----	Not to exceed 9 feet in height.
1893	50	E. ½ of N. E. ¼ Sec. 20 T. 31 N., R. 6 E.	Devil Creek-----	Carl Kleinschmidt---	No Limit----	Log Driving Create Mill Pond	Lands not to be flooded without compensation.
1893	122	S. E. ¼ of S. W. ¼ Sec. 7 T. 32 N., R. 8 E.	Hay Meadow Creek	Frederick Manecke--	No Limit----	Mill Pond & Water Power	
1893	266	Sec. 1 T. 31 N., R. 6 E.	Prairie-----	J. N. Catter et al----	No Limit----	Hydraulic & Log Driving	On lands owned. Height of dam not to exceed 6 ft. above low water.
1901	366	Sec. 9 & 10 T. 31 N., R. 8 E.	Pine-----	Geo. E. Foster Lumber Co.	No Limit----	Hydraulic-----	May repair old dam or build new one. Height not to exceed 15 feet.
1901	55	Sec. 12 T. 32 N., R. 7 E.	Prairie-----	Emil Thomas-----	No Limit----	Hydraulic & Boomage	May build dam on any land owned or controlled. (Within limits). Height of dam not to exceed 6 feet above low water.
1903	145	Sec. 3 & 10 T. 33 N., R. 6 E.	Wisconsin-----	Edw. Bradley et al--	No Limit----	Hydraulic & Improvement Navigation.	Build dam or dams on land owned, possessed or controlled.

## LINCOLN COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1903	154	Sec. 19, 20, 29, 30 & 31 T. 33 N., R. 6 E. Sec. 6 T. 32 N., R. 6 E.	Wisconsin-----	Alexander Stewart et al	No Limit---	Hydraulic & Improvement Navigation.	Dam or dams on any land owned, possessed or controlled.
1903	223	N. E. ¼ S. W. ¼ Sec. 4 T. 31 N., R. 5 E.	Copper-----	Heirs and personal representatives of Richard Shen.	No Limit---	Log Driving-----	Height of dam not to exceed 10 feet above low water.
1905	408	Sec. 4 T. 35 N., R. 4 E.	Big Somo-----	Stolle & Barndt Lumber Co.	No Limit---	Hydraulic Logging & Improvement Navigation.	Dam not to exceed 9 feet in height. Chap. 350, Laws 1905. To be constructed within 4 years.
1905	407	Sec. 19 from Lot 5 to Sec. 20, T. 37 N., R. 7 E. Lot 3	Wisconsin-----	D. E. Dawson J. A. Barrett	No Limit---	Improvement of Navigation, Power and Manufacturing.	Dam not to exceed 13 ft. in height. Chap. 350, Laws of 1905. To be constructed within four yrs.
1905	464	Sec. 30 T. 33 N., R. 6 E.	Wisconsin-----	E. T. Harmon et al--	No Limit---	Navigation Improvement & Logging	Dam not to exceed 32 feet in height, nor create flowage extending up river farther than east line of Sec. 16, T. 33 N. Any water power may be used for Manufacturing generating elec. power etc. that will not hinder the accomplishment of the public purpose. Amendment Chap. 328, Laws 1907, in regard to fishway.
1907	329	Sec. 30 T. 31 N., R. 4 E. Sec. 28 T. 32 N., R. 3 E.	Big Rib-----	Wausau Lumber Co.	No Limit---	Logging	

## MANITOWOC COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1835	Vol. 4 Terr. Laws of Mich	Sec. 23 or 24, T. 19 N., R. 23 E. Former- ly inc. in Brown Co.	Manitowoc-----	S. P. Arndt et al-----	No Limit----	Water Power-----	Locks for Boats, etc. not less than 100' x 20' wide. Dam not to exceed 4 ft. above high water. Must pay damage for flowage. No right of trespass by owners of land. (Sec. 23, also in Bruce's grant, No. 7, Laws 1840). General act, April 15, 1843, P. 68, slide or chute for rafts required in dams erected or to be erected.
1838	40	Sec. 10, T. 19 N., R. 23 E.	Manitowoc-----	Wm. D. Slaughter----	No Limit----	Water Power-----	Not to interfere with prior rights. Dam not to exceed 10 ft. above high water. Must pay damage for flowage. All dams erected or to be erected to contain slide or chute for rafts; Apr. 15, 1843 P. 68.
1840	7	Secs. 23, 25, 26, T. 19 N., R. 23 E.	Manitowac-----	W. C. Bruce et al-----	No Limit----	Hydraulic-----	Lock or locks for boats, etc., not less than 80' x 20'. Slide for rafts. Act Apr. 15, 1843, P. 68. All dams erected or to be erected on Manitowoc River to contain slide or chute for rafts.
1842	P. 11	Sec. 23, T. 19 N., R. 23 E. Lots 4 & 7	Manitowoc-----	Oliver C. Hubbard----	No Limit----	Hydraulic-----	P. 68, Laws 1843, requires all dams on Manitowoc River to have slides. Mill Dam Act. Dam not to exceed 5 ft. above high water.
1850	118	Sec. 14, T. 19	Manitowoc-----	Pliney Pierce-----	No Limit----	Hydraulic-----	Slides for timber, lock where river is made navigable for boats. Dam not to exceed 80' above high water. Lock to be 80' x 20', free to navigation.



## MANITOWOC COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1851	208	Sec. 26, T. 19 N., R. 23 E. Lots 1, 2 & 3	Manitowoc-----	Chas. Clingholtz-----	No Limit---	Hydraulic	
1852	59	N. E. ¼ Sec. 16, T. 19 N., R. 23 E.	Manitowoc-----	Charles & Richard Clingholtz	No Limit---	Hydraulic-----	Dam to be so constructed as to permit passage of descending raft and craft. Dam to be 10' high.
1852	116	Sec. 10, T. 19 N., R. 23 E.	Manitowoc-----	Edw. Beadsley & Thos. W. Baker	No Limit---	Hydraulic-----	Slides for timber. Dam to be 8' above high water mark.
1854	255	Sec. 26, T. 19 N., R. 23 E. Lot 1.	Manitowoc Rapids	Chas. Clingholtz-----	No Limit---	Hydraulic-----	Navigation not to be impaired. This is a grant for a canal and raceway from a certain point on Manitowac River across described lands.
1854	275	Sec. 26, T. 19 N., R. 23 E. Lot 1.	Manitowoc-----	Chas. Clingholtz-----	No Limit---	Hydraulic-----	Free passage of timber, shall not flood lands of others or interfere with dams now erected.
1855	149	S. E. ¼ Sec. 30, T. 17 N., R. 21 E.	Sheboygan-----	Hy. F. Belitz et al---	No Limit---	Hydraulic-----	Height of dam not to exceed 12 ft. above ordinary low water.
1855	186	Sec. 10, T. 19 N., R. 23 E.	Manitowoc-----	T. W. Baker et al---	No Limit---	Hydraulic-----	Height of dam not to exceed 10 ft. above low water mark.
1867	563	S. ½ S. W. ¼ Sec. 7, T. 21 N., R. 23 E.	West Twin River	Hy. Nachway-----	No Limit---	Power & Logging	
1871	269	See remarks	None named-----	Two Rivers Mfg. Co.	No Limit---	Manufacturing-----	Two Rivers Manufacturing Co. granted right to lay out and construct such dams, mills etc from and adjacent to lands of Company in Manitowoc and Brown Counties.

## MARATHON COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1854	82	T. 29 N., R. 7 E.	Wisconsin-----	Chas. Sutter D. A. Barnes W. D. McIndoe	No Limit---	None Specified	
1857	135	From point basin to mouth of Eagle River	Wisconsin-----	Wisconsin River Imp. Co.	No Limit---	Improvement of Navigation.	Flow any state lands north of T. 32 N.
1867	590	From N. Line T. 28 N.	Big Plover & Tributaries to Mouth in Pike Lake Outlet	Big Plover River Imp. Co.	No Limit---	Improvement of Navigation.	Commissioners to appraise damages; may collect toll.
1868	216		Big Rib-----	John Basemann-----	No Limit---	Power	
1870	32	Sec. 6, T., 28 N., R. 6 E.	Big Rib-----	John Linder-----	No Limit---	Hydraulic	
1872	132	E. ¼ S. W. ¼ Sec. 5 T. 28 N., R. 6 E.	Big Rib-----	John Linder-----	No Limit---	Hydraulic-----	Height of dam not to exceed 8 feet above low water mark.
1874	118	Sec. 12 T. 31 N., R. 6 E.	Wisconsin-----	B. F. Cooper et al----	No Limit---	Log Driving-----	Height of dam not to exceed 11 feet.
1874	204	See remarks-----	Little Sandy-----	V. Brooks et al-----	No Limit---	Log Driving-----	May build dam or dams at any point on Little Sandy (Tributary of Little Eau Claire).
1878	271	N. W. ¼ Sec. 11 T. 29 N., R. 6 E.	Little Rib-----	Albert Wendorff-----	No Limit---	Manufacturing-----	Dam to be of sufficient height to give a head of water not to exceed 14 feet at dam. Must pay damages for flowage.
1879	13	Sec. 17 T. 26 N., R. 3 E.	Little Eau Pleine	B. F. & C. S. McMillian	No Limit---		Dam not to exceed 5 ft. in height. Slides to be open during driving stage.
1879	21	S. E. ¼ Sec. 34 T. 29 N., R. 2 E.	Big Eau Pleine	N. J. White-----	No Limit---	Hydraulic & Boomage	Dam not to raise water to exceed 11 feet.
1880	97	S. W. ¼ S. E. ¼ Sec. 13 T. 30 N., R. 4 E. N. W. ¼ Sec. 24 T. 30 N., R. 4 E.	Big Rib-----	Gustavus Werlich----	No Limit---	Hydraulic & Boomage	

MARATHON COUNTY—Continued

On Water Powers to the Legislature

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Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1881	267	S. W. ¼ Sec. 19 T. 28 N., R. 10 E.	Plover-----	R. G. Cory-----	15 Years----	Facilitate Log Driving	Dam not to raise water more than four feet.
1883	93	Sec. 34 T. 27 N., R. 2 E.	Little Eau Pleine	Jos. Mayer-----	No Limit----	None Specified-----	Dam shall not exceed 5 feet in height.
1885	412	N. E. ¼ S. E. ¼ Sec. 19 T. 28 N., R. 10 E.	Plover-----	H. Wadleigh-----	No Limit----	Log Storage	
1887	70	N. W. ¼ S. E. ¼ Sec. 4 T. 27 N., R. 3 E.	Big Eau Pleine	W. Richards-----	No Limit----	None Specified-----	Subject to Mill Dam Act. Not to exceed 9 ft. in height.
1887	118	Secs. 13, 23, 24, 26 T. 29 N., R. 7 E.	Wisconsin-----	Wausau Boom Co.---	No Limit----	Logging; Improvement of Navigation	May collect toll under certain restrictions. Wausau Boom Co. may also build dams on Sec. 1, 2, 3, and 12 of T. 30 N., R. 7 E. and Sec. 1, 2, 11, 12, 13, 14, 23, 24, 26, 34 and 35 of T. 30 N., R. 7 E.
1887	339	Between S. W. ¼ Sec. 8 T. 29 N., R. 5 E. and mouth of Black Creek	Big Rib-----	D. Johnson et al.---	No Limit----	Holding Logs	
1889	77	-----	Four Mile Creek	Freeman & Fellows-Lumber Co.	No Limit----	Logging-----	May collect toll. Number of dams not specified.
1891	242	Sec. 7 T. 29 N., R. 10 E.	Eau Claire-----	Geo. Clayton et al.---	No Limit----	Hydraulic & Manufacturing.	
1893	96	T. 28 N., R. 7 E.----	Wisconsin-----	J. D. Ross et al.---	No Limit----	Hydraulic Manufacturing & Log Driving	Repealed May 5th Chap. 155, Laws 1903.

## MARATHON COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1893	138	T. 27 N., R. 7 E.----	Wisconsin-----	Jos Desert et al-----	No Limit----	Hydraulic & Log Driving	Build dam on any land owned or controlled.
1895	210	T. 29 N., R. 2 E.----	Big Eau Pleine-----	J. F. Mullen-----	No Limit----	Hydraulic Manufacturing & Facilitate Log Driving	
1901	365	Sec. 12 & 13 T. 30 N., R. 8 E.	Trapp-----	Walter Alexander-----	No Limit----	Hydraulic & Improvement of Navigation.	
1903	156	Sec. 32 & 33 T. 26 N., R. 7 E.	Wisconsin-----	C. J. Winton-----	No Limit----	Hydraulic & Improvement of Navigation.	May sell or lease power.
1903	153	Sec. 13 & 14 T. 30 N., R. 7 E.	Wisconsin-----	G. D. Jones et al-----	No Limit----	Hydraulic & Improvement of Navigation.	Build dam or dams on lands owned, possessed or controlled.
1903	155	T. 28 N., R. 7 E.----	Wisconsin-----	J. D. Ross et al-----	No Limit----	Hydraulic & Improvement of Navigation.	Dam formerly owned and operated by J. D. Ross. See Chap. 96, Laws 1893.
1907	664	Sec. 6, 7, 8, T. 26 N., R. 7 E.	Wisconsin-----	Beans Eddy Power Co.	No Limit----	Power Improvement of Navigation & any other legal purpose	Subject to Chap. 350, Laws 1905. Reasonable price for power to be decided by jury in circuit court of Marathon County instead of by arbitrators. To be started within four years. Rights to cease if operation ceases for a continuous period of two years. To be maintained 15 ft. high.

## MARINETTE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1844	P. 36	Sec. 19, T. 30 N., R. 23 E., Lot 3 & 7	Peshtigo-----	David Jones and Ernst Bailey	No Limit---	Power-----	Mill Dam Act. This act to be amended when river above dam is improved.
1899	261	Sec. 1, T. 32 N., R. 18 E., Sec. 32, T. 33 N., R. 19 E.	Peshtigo-----	H. Zech-----	No Limit---	Improvement Navigation Facilitate Logging Driving, Manufacturing.	
1903	308	Sec. 22 T. 38 N., R. 21 E. Lots 2 or 3 or both	Menominee-----	Powell Stackhouse---	No Limit---	Hydraulic-----	One end of dam at location listed, other end at lot 3, Sec. 27, T. 39 N., R. 29 W., Dick County, Michigan. Must get consent of Men. R. Boom Co.
1907	383	Sec. 15, T. 32 N., R. 19 E., Lots 1, 2, 3 & 4	Peshtigo-----	C. E. Pollins, Jr.-----	No Limit---	Power & Improvement of Navigation.	Subject to Chap. 350 Laws 1905, to be started within 4 years. Rights to cease if operation ceases for a continuous period of two years. Not to exceed height of 18 ft. for dam or dams.
1907	405	Sec. 24, T. 32 N., R. 19 E.	Peshtigo-----	Crivitz P. & P. Co.	No Limit---	Power Logging & Improvement Navigation.	Subject to Chap. 350, Laws 1905. To be started within 4 years. Rights to cease if operation ceases for a continuous period of two years. Not to exceed 46 ft. in height.

MARQUETTE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1850	189	Sec. 13, T. 14 N., R. 11 E. Sec. 7, T. 14 N., R. 12 E.	Grand-----	Thos. C. Snow Chas. Waldo	No Limit---	None Specified	
1851	203	Sec. 17, T. 17 N., R. 11 E.	White-----	Ebenezer Dakin-----	No Limit---	Hydraulic and Improvement of Navigation.	
1854	140	Sec. 8, T. 14 N., R. 13 E.	Grand-----	Austin McCracken--	No Limit---	Hydraulic	
1854	214	At outlet of Little Green Lake	-----	Jas. L. Willard-----	No Limit---	To regulate flow through water weir.	
1861	20	Sec. 7, T. 16 N., R. 11 E.	Maken-----	A. L. Flint (D. H. Waite's Assignee)	No Limit---	None Specified-----	Not to overflow state lands or work injury to any person or persons without compensation.

# MILWAUKEE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1839	57	Frac. Sec. 21, T. 7 N., R. 22 E.	Milwaukee-----	Milwaukee Mfg. &	50 Years----	Water Power-----	Slide for logs. Lock for boats. Milwaukee River declared public highway up to T. 12 N., R. 21 E. No toll. Dam not to exceed 5 feet above high water. Must pay damage for flowage. No right of trespass by owner of land. Property owners on each side of river may use power on that side upon payment to company of half the cost of dam and lock. Not to interfere with prior rights granted to the Milwaukee & Rock River Canal Co. by act of Jan. 5, 1838.
1842	P. 83	Spring Street to Wisconsin Ave.	Milwaukee-----	J. H. Rogers, et al----	No Limit----	Passage over streams.	
1843	P. 17	Any stream in Prairieville	-----	Prairieville Mfg. Co.	No Limit----	Power-----	Mill Dam Act.
1844	P. 37	S. W. ¼, Sec. 4, T. 7 N., R. 22 E.	Milwaukee-----	J. H. Rogers et al----	No Limit----	Power-----	Locks when necessary. Mill Dam Act applies.
1845	P. 104	Sec. 19 or 20, T. 8 N., R. 22 E.	Milwaukee-----	Jochim Gruenhagen-	No Limit----	Power-----	Mill Dam Act applies.
1848	139	Sec. 4 & 5, T. 7 N., R. 22 E.	Milwaukee-----	Cicero Comstock; C. H. Williams.	No Limit----	Power-----	Mill Dam Act effective.
1848	P. 9	Sec. 4, T. 7 N., R. 22 E. Lots 2 & 3.	Milwaukee-----	E. W. Allarding-----	No Limit----	Power-----	Mill Dam Act effective.

## MILLWAUKEE COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1851	248	Sec. 20, T. 8 N., R. 22 E. Lots 1 & 4.	Milwaukee-----	Hy. Thien-----	No Limit---	Hydraulic-----	March, 1854, Chap. 151, repeals Sec. 1 & 2, making the company put in slides and locks. Dam not to exceed 6 feet above high water mark.
1853	23	N. E. ¼, Sec. 30, T. 8 N., R. 22 E.	Milwaukee-----	Peter Bender; Lyman Swift, et al.	No Limit---	Hydraulic	
1853	342	Sec. 28, T. 7 N., R. 21 E.	Honey Creek---	Ernest Prieger-----	No Limit		
1855	99	On lands owned or leased	-----	Wisconsin Lard & Oil Co.	No Limit---	Manufacturing-----	Build dam in Milwaukee County only.
1863	153	S. W. ¼, Sec. 1, T. 8 N., R. 21 E.	Milwaukee-----	John Ehlers-----	No Limit---	Hydraulic-----	Must pay damage for flowage.
1875	91	Sec. 18, T. 8 N., R. 22 E. Lot 6.	Milwaukee-----	Chas. Herman-----	No Limit---	Hydraulic-----	Dam not to exceed 8 feet above high water mark.
1885	434	Between Racine Street and Humboldt Ave., and north boundary of Milwaukee.	Milwaukee-----	City of Milwaukee---	No Limit---	Municipal uses-----	Act of April 22, 1887, Chap. 447 authorized issuing of bonds.
1891	170	N. W. ¼, S. E. ¼, and N. E. ¼, S. W. ¼, Sec. 2, T. 5 N., R. 22 E.	Oak Creek-----	Joseph Linderman---	No Limit---	Create lake-----	Height of dam not to exceed 4 feet above high water. Original act gives location N. W. corner of S. E. ¼, and in N. E. corner of S. W. ¼, Sec. 2, T. 5 N., R. 22 E.



OCONTO COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1844	P. 38	S. E. ¼, Sec. 30, T. 28 N., R. 21 E.	Oconto-----	Jno. P. Arndt-----	No Limit---	Power-----	Mill Dam Act.
1856	504	On. from, and adjacent to lands owned	-----	Peshigo Lumber & Mfg. Co.	No Limit---	Manufacturing-----	Amendment Chap. 133, Laws 1859; Amendment Chap. 59, Laws 1860; Amendment Chap. 26, Laws 1861; Amendment Chap. 146, Laws 1863; Amendment P. 39, Laws 1865; Amendment Chap. 320, Laws 1866; Amendment Chap. 122, Laws 1867; and Amendment Chap. 320, Laws 1871, and Chap. 342, Laws 1871.
1856	305	Sec. 24, T. 28 N., R. 20 E.	Little-----	Geo. Smith-----	No Limit---	None Specified-----	Height of dam not to exceed 11 feet above low water mark.
1857	326	On lands owned by company	Menominee-----	Wisconsin Lumber & Mfg. Co.	No Limit---	Manufacturing and Logging	
1857	195	Sec. 25, T. 28 N., R. 19 E., Lots 1 & 2.	Oconto-----	Henry Volk-----	No Limit---	None Specified-----	Height of dam not to exceed 10 feet above high water mark.
1857	164	Sec. 23 & 26, T. 28 N., R. 19 E., Lots 3 & 4.	Oconto-----	Rufus Andrews-----	No Limit---	None Specified-----	Height of dam not to exceed 10 feet above high water mark.
1858	254	Sec. 13, T. 31 N., R. 22 E.	Menominee. ---	Ason Bangs-----	No Limit---	Hydraulic-----	On land that is owned

## OCONTO COUNTY--Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1866	352	N. line of T. 31 N., 14 E.	Wolf-----	Keshna Improvement Co.	-----	Improvement of headwaters of river.	Mill Dam Act effective. Improvements to be perfected within 3 years. Amendment Chap. 258, Laws 1868. Improvements to be perfected within 6 years. Amendment Chap. 433, Laws 1871. Improvement to N. line, T. 31 N., R. 14 E., within 2 years and to N. line T. 34 N., R. 11 E., within 4 years. Amendment repeals Sec. 6, 7, 8, & 10, Chap. 352, Laws 1866.
1866	283	Sec. 1, T. 30 N., R. 23 E. Sec. 14, T. 31 N., R. 22 E. Sec. 6, T. 30 N., R. 24 E. E. line of Lot 4.	Menominee-----	Menominee River Imp. Co.	No Limit---	Power-----	Amendment Chap. 244, Laws 1878, re dam on Sec. 6, T. 30 N., R. 24 E., also provides for consolidating with other companies.
1880	214	Sec. 13, T. 38 N., R. 15 E. to Sec. 20, T. 38 N., R. 16 E.	Poplar (Branch)	John & Halver Amunson	No Limit---	Log Driving-----	Chap. 132, Laws 1883 in re tolls.
1893	129	N. E. $\frac{1}{4}$ , N. E. $\frac{1}{4}$ , Sec. 18, T. 29 N., R. 17 E.	Pecar Brook----	Wm. Sommers-----	No Limit---	Hydraulic and Log Driving.	
1893	191	Sec. 25, T. 28 N., R. 19 E. Lot No. 1	Oconto-----	N. H. Brokaw et al.	No Limit---	Hydraulic-----	Dam not to exceed 25 feet in height, nor raise head to exceed 27 feet. Dam to be located not more than half a mile below Falls Manufacturing Co. dam. Mill Dam Act applies.

## OCONTO COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1897	145	Sec. 26, T. 28 N., R. 19 E. Lots 1 & 3.	Oconto-----	G. W. Volk-----	No Limit---	Hydraulic Manufacturing and Booming	Dam not to raise water to exceed 10 feet above natural channel of river. Amended Chap. 114, Laws of 1903. Dam not to raise water to exceed 16 ft. above natural channel of river.
1897	240	Sec. 31, T. 28 N., R. 20 E.	Oconto-----	Geo. Beyer Chas. Hall	No Limit---	Hydraulic-----	Dam not to exceed 12 feet in height, or raise a head to exceed 14 feet.
1903	209	N. E. $\frac{1}{4}$ , N. W. $\frac{1}{4}$ , and W. $\frac{1}{2}$ , N. W. $\frac{1}{4}$ , Sec. 18, T. 29 N., R. 17 E.	Pecar Brook----	Robt. Gregnon-----	No Limit---	Log Driving	
1905	485	Sec. 33, T. 28 N., R. 18 E. Lots 1 & 8.	Oconto-----	W. C. Zanchow-----	No Limit---	Hydraulic and Improvement of Navigation	Dam not to exceed 30 feet in height from bed of stream. Have right to use surplus water power.
1907	440	N. W. $\frac{1}{4}$ , S. W. $\frac{1}{4}$ , Sec. 10, T. 31 N., R. 16 E.	Oconto-----	S. C. Frost-----	No Limit---	Power-----	Subject to Chap. 350, Laws 1905. To be started within 2 years. Rights cease if operation ceases for a continuous period of 2 years. Not to exceed height of 20 feet above low water mark.

## ONEIDA COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1882	247	N. ½, Sec. 6, T. 36 N., R. 9 E.	Wisconsin-----	Edward D. Brown, et al.	No Limit---	Power, Manufacturing and Facilitate Log Driving.	Amendment 253, Laws 1887, 1887, Chap. 143, Laws 1893 gives right of eminent domain. Chap. 272, Laws 1895, Chap. 280, Laws 1907 gives right to collect toll. May not exceed 6 feet high.
1887	117	From Sec. 10, T. 42 N., R. 9 E., to mouth of creek, T. 41 N., R. 10 E.	Tamarack Creek	M. Beebe, et al.-----	No Limit---	Logging and Improvement of Navigation.	May collect toll.
1887	329	Sec. 1 & 2, T. 40 N., R. 4 E.	Bear Creek (tributary of Flambeau)	Chas. Henry-----	No Limit---	Logging-----	May collect toll.--
1887	434	T. 39 N., R. 5 E.---	Squirrel-----	J. D. Heath-----	No Limit---	Logging-----	One or more dams. May collect toll.
1887	449	T. 42 N., R. 5 E.	Flambeau (North Fork)	Chas. Henry-----	No Limit---	Logging-----	One or more dams. May collect toll.
1887	512	Sec. 31, T. 40 N., R. 10 E.	Eagle-----	L. Choate, et al.-----	No Limit---	Logging-----	Slide for logs. Amendment April 6, 1889, Chap. 270, granting eminent domain.
1889	485	S. W. ¼, S. E. ¼, Sec. 7, T. 41 N., R. 5 E.	Little Bear Creek	J. T. Cosgriff-----	No Limit---	Logging-----	May collect toll.

## ONEIDA COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1889	83	N. W. ¼, S. E. ¼, Sec. 28, T. 40 N., R. 4 E.	Squam Creek---	L. Herrick, et al.---	No Limit---	Logging-----	May collect toll.
1889	481	Sec. 21, T. 36 N., R. 6 E.	Tomahawk-----	J. & D. Arpin-----	No Limit---	Logging and power.	Not to exceed two dams. If one dam, height not to exceed 16 feet; if two dams, aggregate height not to exceed 20 feet. Right to sell or lease right to power. Must permit water to be lowered to within 4 feet of low water mark.
1889	252	Sec. 10 & 15, T. 39 N., R. 6 E.	Tomahawk-----	D. Benjamin, et al.---	No Limit---	Improvement of Navigation.	Water not to be lowered less than 6 feet or more than 8 feet above low water.
1891	177	Sec. 36, T. 40 N., R. 9 E.	Wisconsin-----	Dan Graham, et al.---	No Limit---	Manufacturing and Improvement of Navigation.	On lands owned. To pay damages to owners of dam already erected in T. 40 N., R. 10 E. Chap. 512, Laws 1887. Height of dam to be not less than 9 feet and not more than 11 feet above low water.
1893	154	W. ½, N. E. ¼, Sec. 23, T. 36 N., R. 5 E.	Little Rice-----	Thomas Christy-----	No Limit---	Log Driving	
1893	169	Sec. 8, 9, or 16, T. 36 N., R. 9 E.	Pelican-----	Paul Browne, et al.---	No Limit---	Hydraulic, Boomage and Power.	Height of dam not to exceed 12 feet above low water.

ONEIDA COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1903	26	Near quarter-line S. side, Sec. 11, T. 35 N., R. 10 E.	Pelican-----	Antigo Island Club--	No Limit---	Improvement of Navigation and Protection of Fish.	Height of dam not to exceed 2 feet; not to raise lake above high water mark.
1903	239	Between N. line of Sec. 23 and S. line of Sec. 27, T. 36 N., R. 8 E.	Wisconsin-----	E. S. Shepard, et al.	No Limit---	Hydraulic and Improvement of Navigation.	To set water mark back to E. and W. quarter-line of Sec. 12. T. 36 N., R. 8 E. Not above mouth of Pelican River.
1905	398	S. ¼, S. E. ¼, Sec. 4, or N. ½, N. E. ¼, Sec. 9, T. 36 N., R. 10 E.	Pelican-----	W. E. Brown, et al.--	No Limit---	Hydraulic and Improvement of Navigation.	Dam not to exceed 6 feet in height. Slides and chutes for logs etc. No toll. To be constructed within 4 years. Chap. 350, Laws 1905.
1907	176	T. 38 & 39 N., R. 11 E.	On canal between Planting Ground and Town Line Lakes.	Three Lakes Transportation & Nav. Co.	No Limit---	Transportation-----	For dam and locks. May collect toll. Not to exceed height of 3 feet above high water mark on Planting Ground Lake.

# OUTAGAMIE COUNTY

## On Water Powers to the Legislature

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Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1852	87	On any land owned or leased by company.	No particular streams mentioned.	Appleton Water Power Co.	No limit---	Hydraulic-----	Business of said company to be conducted at Appleton.
1869	400	Sec. 31, T. 24 N., R. 18 E.	Black Creek-----	Andrew Thompson, et al.	No limit---	Logging-----	May collect tolls. Dam not to raise water to exceed 6 feet.
1889	372	Lots 6 and 7, Sec. 24, South of river to lots 2 and 3 north of river, T. 21 N., R. 18 E.	Fox-----	H. J. Rogers, et al--	No Limit---	Power-----	Dam not to exceed 28 feet in height and not to raise a head exceeding 22 feet. Mill Dam Act applies.
1905	397	See Remarks-----	Fox-----	J. S. Van Nortwick; E. Mariney.	No Limit---	Hydraulic-----	Lower rapids, city of Kaukauna, from Government lots 1, 2, or 3 in Sec. 21, south of Fox River, and described in Assessor's map of city as lots A in said Government lots to north of Fox River, connecting with lot H in the southwesterly half of private claim No. 35, all in T. 21 N., R. 18 E.

## OZAUKEE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1854	9	Sec. 31, T. 10, N., R. 22 E.	Milwaukee-----	Chas. Quentin; Herm G. C. Kemper; Titus Fernow.	No Limit----	Hydraulic-----	Dam to be 4 feet above high water mark.
1855	88	Sec. 28, T. 12 N., R. 21 E.	Milwaukee-----	Geo. W. Foster-----	No Limit----	Hydraulic-----	
1856	353	S. ½, Sec. 34, T. 12 N., R. 21 E.	Milwaukee-----	Rufus Washburn-----	No Limit----	Hydraulic-----	
1861	69	S. ½, Sec. 3, T. 11 N., R. 21 E.	Milwaukee-----	H. W. Stillman-----	No Limit----	Hydraulic-----	Not to overflow lands without consent of owners.
1867	26	Cedar Creek; also between Big and Little Lakes.	-----	Cedar Creek Hyd. Co.	No Limit----	Power-----	Amended Chap. 147, Laws 1875, renew territory.
1871	85	Sec. 11, T. 11 N., R. 21 E., Lot 3.	Milwaukee-----	Julius Sizer-----	No Limit----	Hydraulic-----	Height of dam not to exceed 10 feet above high water.
1872	110	Sec. 34, T. 12 N., R. 21 E.	Milwaukee-----	J. B. Schanbly-----	No Limit----	Hydraulic-----	



PEPIN COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1868	302	T. 23 N., R. 15 W--	Bogus Creek----	W. A. Perkins-----	10 years-----	Fish Culture.	

PIERCE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1867	408	-----	Kinnickinnic----	Kinnickinnic Slack Water & Hyd. Co.	No Limit---	Power and Improve- ment of Navigation.	Chap. 260, Laws 1868 amends Sec. 5, Re time notices shall be given.

## POLK COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1856	481	Sec. 33, T. 33 N., R. 16 W.	Apple-----	Apple River Dam Co.	12 years----	Log Driving-----	Dam of sufficient height to raise water at that point 7 feet above low water mark.
1868	430	-----	Apple and tributaries.	Apple River Log Driving Co.	10 years----	Log Driving and Improvement of Navigation.	Amended Chap. 108, Laws 1869, regarding booms. Chap. 259, Laws 1873 repeals Chap. 339, Laws 1870. Chap. 45, Laws 1876 regarding directors. Chap. 134, Laws 1882 extends time to July, 1888.
1871	332	S. W. $\frac{1}{4}$ , N. W. $\frac{1}{4}$ , Sec. 29, T. 32 N., R. 17 W.	Apple-----	Wagon Landing. Dam & Mill Co.	No Limit	Hydraulic-----	Height of dam not to exceed 8 feet. Probably no dam built.
1873	135	Sec. 27, T. 33 N., R. 19 W.	Osceola Creek----	S. B. Dresser, et al----	No Limit----	Hydraulic-----	Height of dam 20 feet.
1875	45	South Fork at Clam Falls.	Clam River-----	D. F. Smith-----	No Limit----	Facilitate log driving.	Right to maintain dam.
1875	195	South Fork of South Fork, N. W. $\frac{1}{4}$ of E. $\frac{1}{4}$ , Sec. 36, T. 37 N., R. 16 W.	Clam-----	J. H. McCourt-----	15 years----	Not specified-----	Right to maintain dam. Dam not to raise water to exceed 16 feet. Slides to be open during driving stage and when not necessary to hold back water for driving or flooding logs.
1875	327	N. W. $\frac{1}{4}$ , S. W. $\frac{1}{4}$ , Sec. 8, T. 36 N., R. 15 W.	Clam-----	J. E. Glover-----	15 years----	Not specified-----	Right to maintain dam. Dam not to raise water to exceed 12 feet. Slides to be opened during driving stage, and when not necessary to hold back water for driving or flooding logs.

## POLK COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1878	291	Sec. 26, T. 33 N., R. 17 W.	Sucker Branch	W. L. Sadler	No Limit		Dam not to raise head of water to exceed 6½ feet in Sucker Lake; repealed by Chap. 86, Laws 1882.
1879	112	Sec. 29, T. 32 N., R. 15 W.	Willow	James Johnson; Wm. Johnson.	15 years	Not specified	Dam not to raise water to exceed 12 feet. Slides to be open during driving stage, and when not necessary to hold water for logging purposes. Rights to maintain a dam.
1879	232	Sec. 31, T. 37 N., R. 15 W.	Clam (S. Fork)	J. E. Glover	15 years	Not specified	Right to maintain dam. Dam not to raise water to exceed 8 feet. Slides to be open during driving stage and when not necessary to hold back water for flooding or driving logs.
1881	64	Sec. 7, T. 34 N., R. 14 W.	Canal with dams between Bear and Horse Shoe Lake.	A. D. Andrews; B. W. Andrews; J. W. Perley.	No Limit	Log driving and other purposes.	Rights also extend to Barron County.
1882	224	St. Croix Falls	St. Croix	J. F. Nason, et al.	No Limit	Facilitate log driving	Mill Dam Act applies. Repealed Chap. 25, Laws 1903.
1883	21	Sec. 20, T. 36 N., R. 16 W., Lot 1.	Straight	Nelson Larson, et al.	10 years	Facilitate logging	
1883	33	N. ½, S. W. ¼, Sec. 18, and S. ½, N.E. ¼, Sec. 20, and S. W. ¼, N. E. ¼, Sec. 34, T. 36 N., R. 16 W.	Straight	Isaac Staples, et al.	10 years	Facilitate log driving	Shall not raise water to exceed 15 feet in height. Repealed Chap. 108, Laws 1887. Three dams located as specified.
1885	254	S. ½, N. E. ¼, Sec. 12 W., T. 32 N., R. 17	Apple	J. C. Schneider	No Limit	Power for manufacturing.	Height restricted to 10 feet or less.

## POLK COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1885	283	S. E. $\frac{1}{4}$ , N. E. $\frac{1}{4}$ , Sec. 11, T. 32 N., R. 17 W.	Apple-----	J. C. Schneider-----	No Limit---	Power and other purposes.	Height 15 feet or less. No dam; but site retained by J. C. Schneider.
1887	113	Sec. 28, or 33, T. 33 N., R. 16 W.	Apple-----	W. Wilson, et al-----	No Limit---	Logging, power and other purposes.	May collect tolls.
1887	178	Sec. 26, T. 35 N., R. 16 W.	Blakes Lake-----	S. Harriman, et al-----	No Limit---	None specified-----	Not to exceed 8 feet in height. To be kept open during driving stage.
1887	218	N. W. $\frac{1}{4}$ , N. E. $\frac{1}{4}$ , Sec. 6, T. 34 N., R. 15 W.	Rice Bed; fork of Apple River.	J. C. Schneider, et al.	15 years----	Logging-----	Not to raise water above 6 feet. To be kept open during driving stage. May collect toll.
1889	215	Between the S. line of T. 35 N. R. 19 W., and N. line of T. 36 R. 20 W.	St. Croix-----	A. E. Jefferson, et al.	30 years, be- ginning Mar. 1890.	Improvement of na- vigation and logging.	To be completed March, 1891. May collect toll. Amended May 13, 1891. Chap. 478, (flowage) amended May 2, 1895. Chap. 352 (Re-agent). Chap. 215, Laws 1889 excepts Chap. 224, Laws 1882 only, but Chap. 224, Laws 1889 is repealed by Chap. 25, Laws 1903.
1889	336	S. W. $\frac{1}{4}$ , N. E. $\frac{1}{4}$ , and N. W. $\frac{1}{4}$ , S. E. $\frac{1}{4}$ , Sec. 5 T. 33 N., R. 15 W.	Beaver Brook---	J. Richardson-----	No Limit---	Boomage and power.	Subject to Mill Dam Act. Not to raise water over 18 feet above natural level.
1903	24	Near village of St. Croix Falls.	St. Croix-----	St. Croix Falls, Wis. Imp. Co.	No Limit---	Hydraulic and im- provement of navi- gation.	Height of dam not to exceed 50 feet above low water. Flash- boards 4 feet addition.
1903	174	Sec. 30, T. 32 N., R. 17 W.	Apple-----	A. P. Bixly, et al-----	No Limit---	Hydraulic-----	On land owned. No dam built.

## PORTAGE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1844	P. 113	Between Sec. 31, and 32, T. 24 N., R. 8 E.	Wisconsin-----	Abraham Brawley-----	No Limit-----	Power	
1853	30	-----	Wisconsin; from Stevens Point to Point Bass.	Wisconsin River Imp. Co.	No Limit-----	Improvement of navigation.	See Sec. 14, Chap. 30, Laws 1850, Chap. 28, Laws 1854, Chap. 341, Laws 1854 Chap. 171, Laws 1866, Chap. 385, Laws 1867, Chap. 394, Laws 1868, amends Sec. 12, Chap. 30, Laws 1853, Chap. 298 Laws 1876 Chap. 236, Laws 1878, Chap. 292, Laws 1880, Chap. 194, Laws 1895.
1853	247	Opposite Sec. 18, T. 22 N., R. 6 E.	Wisconsin-----	Geo. Naeves; Wm. Roe.	No Limit-----	Hydraulic	
1859	111	Sec. 17, T. 23 N., R. 8 E.; Lot 3.	Wisconsin-----	Isaac Ferris-----	-----	Hydraulic-----	Dam build from Lot 3 on west side to island No. 1, thence east to bank. Height of dam not to exceed 8 feet of ordinary water line.
1867	590	From N. line T. 28 N.	Big Plover and tributaries to mouth in Pike Lake Outlet. Also Marathon County.	Big Plover River Imp. Co.	No Limit-----	Improvement of navigation.	Commissioners to appraise damages. May collect tolls.
1871	494	-----	Mill Creek-----	Mill Creek Imp. Co.	No Limit-----	Log Driving-----	Also Wood County. Not to infringe upon, injure, or destroy rights or property of any person or persons.

## PORTAGE COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1874	239	Sec. 6, 7, & 8, T. 23 N., R. 8 E.	Wisconsin-----	Jno. M. Robinson-----	No Limit---	For use of mill-----	All dams necessary.
1882	106	Sec. 17, T. 23 N., R. 8 E.	Wisconsin-----	S. A. Sherman-----	No Limit---	None specified-----	Subject to Chap. 70 of the revised statutes.
1882	107	Sec. 26, T. 24 N., R. 6 E.	Big Plover-----	Clarence A. Sherman-----	No Limit---	None specified-----	Subject to Chap. 70 of the revised statutes.
1882	145	Sec. 9, T. 23 N., R. 8 E.	Big Plover-----	S. A. Sherman-----	No Limit---	None Specified-----	Subject to Chap. 70 of the revised statutes.
1889	283	Sec. 8, T. 23 N., R. 8 E.	Wisconsin-----	G. Whiting, et al-----	No Limit---	Power and improvement of navigation.	For dam or dams.
1889	428	Sec. 8, T. 23 N., R. 8 E.	Wisconsin (E. Branch)-----	S. Sherman-----	No Limit---	None specified-----	Subject to Chap. 70, Laws 1878.
1900	407	Sec. 6, T. 23 N., R. 8 E.	Wisconsin-----	T. Taylor, et al-----	No Limit---	Power-----	Water not to be raised over 3 feet above low water mark. Dam over slough channel at foot of Lot 2, Sec. 7, T. 23 N., R. 8 E., not to exceed 15 feet above low water mark.
1901	261	S.W. ¼, N.E. ¼, Sec. 9, T. 23 N., R. 8 E.	Big Plover-----	Horace E. Horton-----	No Limit---	Hydraulic-----	All conflicting acts repealed.
1905	39	N.E. ¼, S.W. ¼, Sec. 12, T. 24 N., R. 8 E.	Big Plover-----	Stevens Point Power Co.	No Limit---	Hydraulic-----	Dam to be kept at present height. May add flashboards to a height of 4 feet additional.
1907	158	N.E. ¼, S.E. ¼, Sec. 1, T. 24 N., R. 8 E.	Big Plover-----	A. Van Order-----	No Limit---	Power.	

## PRICE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1874	176	Sec. 15 & 22, T. 40 N., R. 1 E.	Elk-----	John H. Redfield----	20 years----	Manufacturing and other purposes.	Height of dam not to exceed 12 feet. May build dam or series of dams. If dams cause flowage to "pay in full for damages accruing at any time."
1878	272	Sec. 22 & 23, T. 40 N., R. 3 E.	Flambeau (South Fork).	Henry Hewitt, Jr, et al.	No Limit----	Improvement of river	Dam to be of sufficient height to flood said streams and lakes, and secure sufficient depth of water for the easy running of logs. Slide and rolling dams can be constructed from point given to range line.
1880	144	N. W. ¼, N. W. ¼, Sec. 31, T. 38 N., R. 2 E.	Elk-----	A. D. Lunk; Peter Musser	No Limit----	Facilitate log driving	Chap. 192, Laws 1881 amends this act by striking out "on" and inserting 'between Elk Lake and the east line of.' Dam not to exceed 15 feet in height.
1880	184	Sec. 18, T. 40 N., R. 1 W.	Butternut Creek-	D. P. Simons-----	No Limit----	To regulate water and facilitate log driving.	Chap. 181, Laws 1882 amends, and provides for fishways.
1880	201	Sec. 32, T. 34 N., R. 3 E., Lot 4.	Spirit-----	G. W. Gate; W. N. McLeod.	No Limit----	Facilitate log driving-	
1880	205	Sec. 18, T. 40 N., R. 2 W.	Pine-----	A. B. McDonnell----	No Limit----	Facilitate log driving-	
1880	241	Sec. 24, T. 37 N., R. 1 E.	Little Elk-----	Mathew Wadleigh----	No Limit----	Facilitate log driving-	
1881	164	T. 39 N., R. 1 E----	Saylor Creek----	E. E. LeClaire-----	No Limit----	Facilitate log driving-	

## PRICE COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1881	221	Above Wisconsin Central Railroad crossing.	Silver Creek-----	John Duncan-----	No Limit---	Facilitate log driving--	Unlawful to build dams above this one without sluices and gates.
1882	228	N. W. $\frac{1}{4}$ , S. W. $\frac{1}{4}$ , Sec. 32, T. 34 N., R. 1 W.	Jump-----	D. P. Simons-----	No Limit---	Facilitate log driving--	
1883	198	S. W. $\frac{1}{4}$ , S. W. $\frac{1}{4}$ , Sec. 27, T. 36 N., R. 1 E.	Hay Creek-----	James Morrison, et al	No Limit---	Facilitate log driving--	
1885	367	Sec. 28, T. 38 N., R. 2 E.	Popple Creek----	G. W. Mason, et al --	No Limit---	Logging and power--	Not to exceed 8 feet in height May collect toll.
1887	386	From Sec. 16, T. 38 N., R. 1 E. to mouth.	Squaw Creek----	J. Quail, et al.-----	No Limit---	Logging-----	One or more dams. May collect tolls.
1889	405	Sec. 9, 15, and 19, T. 36 N., R. 2 W.	Skinner Creek----	G. W. Mason, et al --	No Limit---	Logging-----	Grant permits of more than one dam. May collect toll.
1891	140	Sec. 6, T. 39 N., R. 1 E., Lot 8.	Flambeau (S. Fork).	C. C. VanDeusen, et al.	No Limit---	None specified-----	Height of dam not to exceed 11 feet above bottom of stream.
1899	320	Sec. 13, T. 40 N., R. 1 W., Lots 4 and 5., Sec. 24, T. 40 N., R. 1 W., Lot 3; from Sec. 25, T. 40 N., R. 1 W., Lot 6 to 1.	Flambeau-----	Abbie Sherry; F. T. Russell.	No Limit---	Hydraulic-----	Dams not to exceed height of dam now built, or have greater flowage. Mill Dam Act applies.



## RACINE COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1843	P.22	Sec. 2 & 11, T. 3 N., R. 19 E.	Fox-----	Levi Godfrey, et al--	No Limit---	Hydraulic-----	Amended P. 95, Laws 1845, in re dam to be so constructed as not to cause backwater to injure other dams.
1843	P.32	Sec. 32, T. 3 N., R. 19 E.	Fox-----	Silas Peck, et al-----	No Limit---	Power-----	Mill Dam Act.
1850	120	Sec. 33, T. 3 N., R. 19 E.	Fox-----	James Catlin-----	No Limit---	Hydraulic-----	Dam not to exceed 4½ feet in height.
1857	183	Sec. 14, T. 3 N., R. 19 E.	Fox-----	Jas. & Robt. Scott--	No Limit---	Hydraulic.	

## RICHLAND COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1854	274	On any land owned or leased by com- pany, in Richland County.	-----	Richland Mfg. Co ---	No Limit---	Hydraulic.	
1863	349	N. W. ¼, Sec. 6, T. 12 N., R. 2 W.	Kickapoo-----	Isaac R. and D. A. Lawton.	No Limit---	Hydraulic-----	Dam not to exceed 16 feet above low water, nor to interfere with any dam now erected or to be erected on river or to overflow lands of others.

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**ROCK COUNTY**

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1843	P.25	Sec. 36, T. 3 N., R. 12 E.	Rock-----	Wm. H. Balley, et al.	No Limit---	Power-----	Dam not to give a fall of over 2 feet and 9 inches. Amended Chap. 117, Laws 1846, fall not over 4 feet. Amended Chap. 353, Laws 1855, fall not over 8 feet. Locks not less than 120 feet long. and 24 feet wide.
1843	P.35	Sec. 14 and 15, T. 3 N., R. 12 E.	Rock-----	Anson W. Poke, and others	No Limit---	Improvement of river and power	Mill Mam Act. Amendment Chap. 333, Laws 1851, Chap. 117, Laws 1857.
1850	94	Sec. 21, 22, 27, 28, T. 2 N., R. 12 E.	Rock-----	Ira Miltimore-----	No Limit---	Hydraulic-----	Locks 100 feet by 24 feet deep as soon as river is made navigable. Laws 1854, Chap. 87; 1855, Chap. 100 incorporates Afton Mfg. Co.
1851	126	Sec. 20, T. 1 N., R. 10 E.	Sugar-----	Alvin V. Carpenter --	No Limit---	Hydraulic	
1855	171	Any point within, not to exceed 2 miles from Janesville on the Rock.	Rock-----	Janesville Mfg. Co.---	No Limit---	Hydraulic-----	Build dam to any height necessary. Amended Chap. 286, Laws 1871 increases capital only.
1855	313	Sec. 14, T. 2 N., R. 11 E.	Bass Creek-----	J. L. V. Thomas-----	No Limit---	Hydraulic-----	On any land owned.
1855	129	Between 1st and 2nd streets, Blk. 42.	Rock-----	E. P. Doty and associates	No Limit---	Manufacturing-----	Authorized to keep flume and water wheel within 30 feet of Rock River, Janesville.

ROCK COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1856	308	N. E. ¼ Sec. 1, T. 4 N., R. 10 E.	Badfish Creek---	Noah Davenport-----	No Limit---	Hydraulic-----	Dam sufficient height to raise water 11 feet.
1871	241	-----	Black-----	Beloit Water Power Co.	No Limit---	Hydraulic-----	Owners of dam already built here incorporated with others gives title to dam in Beloit. (Act of Chap. 239, Laws 1858 declared legal all previous busi- ness contracts etc., of the Beloit Water Power Co.) Give right in Chap. 241 to raise dam 2 feet.
1872	60	Sec. 27, T. 2 N., R. 14 E.	Turtle Creek-----	Jesse Pramer-----	No Limit---	Hydraulic-----	Height of dam 6 feet.

## RUSK COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1857	368	T. 35 N., R. 5 W.----	Flambeau-----	W. H. Gleason-----	No Limit--	None specified	
1901	292	Sec. 35, T. 36 N., R. 5 W.	Flambeau-----	A. J. McGilvray-----	No Limit---	Hydraulic-----	Dam of no greater height than to cause back flowage 1 mile above dam. Amendment April 27, 1903, Chap. 112, repeals time limit of 2 years for commencement. Amendment July 18, 1907, Chap. 675 repeals sentence continuing flowage restriction.
1901	445	N. ½, Sec. 30, T. 35 N., R. 5 W.; Sec. 2, T. 34 N., R. 6 W.	Flambeau-----	Chas. R. Smith, et al.	No Limit---	Hydraulic-----	Dam or dams.
1903	62	Sec. 18, T. 34 N., R. 6 W.	Flambeau-----	O. E. Pederson, et al.	No Limit---	Hydraulic-----	Height of dam not to exceed 12 feet. Amendment May 23, 1907, Chap. 123, height of dam not to exceed 20 feet above ordinary level, but not to effect dam of Chas. R. Smith.
1905	409	Sec. 26, T. 33 N., R. 5 W.	Jump-----	J. T. Cosgriff-----	No Limit---	Improvement of navigation	To be constructed within 4 years. Dam not to exceed 20 feet in height.
1905	411	Sec. 31, T. 34 N., R. 5 W.	Main Creek-----	G. E. Newman-----	No Limit---	Improvement of navigation	Dam not to exceed 15 feet in height; to be constructed within 4 years.

RUSK COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1907	380	N. E. ¼, Sec. 23, T. 36 N., R. 7 W.	Chippewa-----	Chas. R. Smith-----	No Limit---	Power and improvement of navigation.	Subject to Chap. 350, Laws 1905. To be started within 4 years. Rights to be lost if operation ceases for a continuous period of 2 years. Not to exceed 26 feet in height above low water mark.
1907	285	W. ½, N. E. ¼, Sec. 25, T. 33 N., R. 5 W.	Jump-----	J. C. Young-----	No Limit---	Power and improvement of navigation.	Subject to Chap. 350, Laws 1905. To be started within 4 years. Rights cease if operation ceases a continuous period of 2 years. Not to create a head to exceed 25 feet.
1907	284	Sec. 34, T. 33 N., R. 5 W.	Jump-----	J. C. Young-----	No Limit---	Power and improvement of navigation.	Subject to Chap. 350, Laws 1905. To be started within 4 years. Rights to cease if operation ceases for a continuous period of 2 years. Not to have greater head than 23 feet. Not to interfere with tail race of any dam on the W. ½, N. E. ¼, Sec. 25, T. 33 N., R. 5 W.

# Railroad Commission Report

## ST. CROIX COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1866	122	T. 28 N., R. 19 W. --	Willow -----	Dan'l. A. Baldwin et al	No Limit ---	Hydraulic & Logging	Mill Dam Act effective by amendment. Chap. 115, Laws 1872.
1868	430	-----	Apple River & Tributaries	Apple River Log Driving Company	10 years ----	Log Driving and Improvement of Navigation	Amendment Chap. 108, Laws 1869, Rebooms. Chap. 259, Laws 1873, repeals Chap. 339. Laws 1870. Chap. 45, Laws 1876, regarding directors. Chap. 134, Laws 1882, extends time to July 1888.
1869	361	At St. Joseph Falls --	Willow -----	Christian Burkhardt	No Limit ---	Power -----	Dam formerly owned by Willow River Dam Company. Mill Dam Act effective. Amendment Chap. 234, Laws 1877, Re Sluices for Logs. Amendment Chap. 150, Laws 1882, Re—Price of tolls.
1871	326	N. W. ¼ N. E. ¼, Sec. 11, T. 31 N., R. 18 W.	Apple -----	Huntington Mfg. Co.	No Limit ---	Hydraulic -----	Height of dam not to exceed 8 feet.
1871	239	Town of St. Joseph---	Willow -----	Christian Burkhardt	No Limit ---	Hydraulic -----	Build dam 200 rods from Willow Falls, Town of St. Joseph.

## ST. CROIX COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1879	147	Sec. 16 or 17, T. 31 N., R. 15 W.	Willow-----	Jas. Johnson: William Johnson	15 years-----	Not specified-----	Dam not to raise water to exceed 12 feet. Slides to be kept open during driving stage and when not necessary to hold water for logging purposes. Amendment Chap. 208, Laws 1880, changes Sec. 16 or 17 to 13 or 24 and dam not to raise water to exceed 14 feet.
1887	135	N. W. $\frac{1}{4}$ N. E. $\frac{1}{4}$ , Sec. 11., T. 31 N., R. 18 W.	Apple-----	S. Campbell-----	No Limit-----	Power and other purposes	Not to raise water more than 15 feet.
1899	144	S. E. $\frac{1}{4}$ S. E. $\frac{1}{4}$ Sec. 35, T. 31 N., R. 19 W.	Apple-----	F. W. Epley-----	No Limit-----	Manufacturing Power & improvement of navigation	Dam not to raise water to exceed 24 feet. Right to add to or construct dam.
1899	172	S. W. $\frac{1}{4}$ Sec. 26, T. 31 N., R. 19 W.	Apple-----	F. P. Epley-----	No Limit-----	Hydraulic power and manufacturing	Dam not to raise water to exceed 30 feet. Dam not built by Epley.
1901	185	S. W. $\frac{1}{4}$ N. E. $\frac{1}{4}$ Sec. 31, T. 31 N., R. 18 W.	Apple-----	F. W. Epley-----	No Limit-----	Hydraulic & improvement of stream	Dam not to raise water more than 20 feet. To be built on land owned. Location according to this act amended May 13, 1903. Chap. 220 changed location from N. E. $\frac{1}{4}$ S. W. $\frac{1}{4}$ to S. W. $\frac{1}{4}$ N. E. $\frac{1}{4}$ .

SAUK COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1851	383	Sec. 27, T. 12 N., R. 7 E.	Baraboo-----	Anna Garrison-----	No Limit---	Hydraulic-----	Right to sell or lease right to use power.
1854	250	S. E. ¼, S. E. ¼, Sec. 29, T. 12 N., R. 5 E.	Baraboo-----	John J. Jarvis-----	No Limit---	Hydraulic	
1855	330	Sec. 9, 10, & 15, T. 13 N., R. 6 E.	Wisconsin-----	Wisconsin River Hyd Co.	No Limit---	Hydraulic and boom-age	Amended to Chap. 330, Laws 1855, in Chap. 508, Laws 1856 gives company right to build dam on Sec. 4, T. 13 N., R. 6 E. Conflicting acts repealed; Chap. 68, Laws 1860 repeals Chap. 508; lock not less than 150 feet by 45 feet. Court may order dam out on failure to pay damages sixty days after award. Repealed Chap. 70, March 31, 1860.
1856	58	W. ¼, Sec. 10, T. 12 N., R. 4 E.	Baraboo-----	Jos. McKay-----	No Limit---	Dam for public good	Commissioners to determine height, etc. Amended 1857 Chap. 167. Dam not to exceed 11 feet in height.
1863	327	N. E. ¼, Sec. 17, T. 9 N., R. 6 E.	Honey Creek----	Rufus Merrihew, et al	No Limit---	None specified-----	Dam not to exceed 8 feet. After damages assessed according to provisions of act and paid by grantees, right of flow to be vested in company.
1867	148	-----	Baraboo-----	Baraboo Mfg. Co.----	No Limit---	Power-----	Amended Chap. 358, Laws 1867,



SAUK COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1877	23	Sec. 13, T. 12 N., R. 7 E.	Leach Creek-----	Peter Wilconson, et al	No Limit----	Improvement of water conditions	Riparian towns authorized to appropriate aid in construction.
1882	269	N. E. ¼, Sec. 9, T. 12 N., R. 4 E.	Babbs Creek-----	A. P. Ellinwood-----	No Limit----	Power-----	May be sufficient height to give 12-foot head at dam.
1893	118	Sec. 3, 4, 9, and 10, T. 13 N., R. 6 E.	Wisconsin-----	Kilbourn Mfg. Co.---	No Limit----	Hydraulic-----	See Kilbourn Mfg. Co., April 14, 1893, under Columbia County
1901	462	West end of dam, Sec. 4, T. 13 N., R. 6 E., Lot 4; East end on R. R. Addition to Kilbourn, Lots 1 & 2.	Wisconsin-----	Wm. Gunther, et al---	No Limit----	Hydraulic and improvement of navigation	Height of dam 15 feet, and 2 feet higher by means of flash boards during low head.
1907	189	Sec. 25, T. 10 N., R. 6 E.	Wisconsin-----	J. S. Tripp, et al-----	No Limit----	Power and improvement of navigation	See Chap. 189 under Columbia County, June 8, 1907.

# Railroad Commission Report

## SAWYER COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1883	11	Sec. 27, T. 41 N., R. 9 W.	Namakagon	Anthony J. Hayward	No Limit	Facilitate log driving	
1885	43	Above Hayward	Namakagon	A. J. Hayward	No Limit	Logging and power	
1885	104	Sec. 10, T. 37 N., R. 9 W.	Elm Creek (tributary to Red Cedar River)	J. H. Stout, et al	No Limit	None specified	Water not to be raised over 20 feet above normal level.
1887	85	Sec. 3, T. 41 N., R. 6 W., or Sec. 34, T. 42 N., R. 6 W.	Tea	J. England	No Limit	Logging	May collect toll.
1887	273	N. E. $\frac{1}{4}$ N. W. $\frac{1}{4}$ , Sec. 3, T. 38 N., R. 8 W.	Devils Creek	M. Dobia	No Limit	Logging	For dam or dams. Water not to be raised over 12 feet at site. May collect toll.
1889	445	T. 41 N., R. 7 W.	Little Chief Creek	James Wright	No Limit	Logging	One or more dams. May collect toll. Repealed March 24, 1897, Chap. 87.
1893	136	N. W. $\frac{1}{4}$ , Sec. 14, T. 41 N., R. 5 W.	Moose	W. E. Moses	No Limit	None specified	
1893	296	N. E. $\frac{1}{4}$ N. E. $\frac{1}{4}$ , Sec. 17, T. 42 N., R. 6 W.; also between lake on Secs. 9 and 10, T. 42 N., R. 6 W., and Lost Lake on Lost Creek	Lost Creek	E. S. Hammonds	No Limit	Improvement of navigation.	Two dams already built here legalized. May make more improvements.

SAWYER COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1903	340	Sec. 23 & 26, T. 38 N., R. 7 W.	Chippewa-----	E. T. Harmon-----	No Limit---	Hydraulic and improvement of navigation	Dam at or near east and west boundary line between Secs. 23 and 26.
1907	591	Sec. 36, T. 37 N., R. 7 W.	Chippewa-----	F. J. Wood-----	No Limit---	Power and improvement of navigation	Subject to Chap. 350, Laws 1905. To be started within 2 years. Rights cease if operation ceases for a continuous period of 2 years. Not to exceed 26 feet above low water mark.
1907	626	Sec. 10, T. 37 N., R. 7 W.	Chippewa-----	J. Arpin Lumber Co-	No Limit---	Power and improvement of navigation	Subject to Chap. 350, Laws 1905. To be started within 2 years. Rights to cease if operation ceases for a continuous period of 2 years; not to exceed 18 feet above low water mark.

## SHAWANO COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1847	P.121	Between Sec. 24 and 25, T. 27 N., R. 15 E.	Wolf-----	Samuel H. Farnsworth	No Limit---	Power-----	Dam not to exceed 7 feet above high water. Mill Dam Act effective.
1853	258	At LaMotte-----	Wolf-----	Geo. J. Wright; L. M. Miller	No Limit---	None specified	
1866	352	S. line, T. 29 N., R. 15 E.; N. line, T. 31 N., R. 14 E.	Wolf (Head waters)	Keshna Imp. Co.----	No Limit---	Improve the head waters of river	Mill Dam Act effective. Improvements to be perfected within 3 years. Amendment Chap. 258, Laws 1868; improvements to be perfected within 6 years. Also amendment repeals Sec. 6, 7, 8, and 10, of Chap. 352, Laws 1866. Amendment Chap. 433, Laws 1871; improvement to north line of T. 31 N., R. 14 E., within 2 years and to north line of T. 34 N., R. 11 E., within 4 years.
1869	76	Sec. 8, T. 26 N., R. 14 E.	Embarrass above mouth of N. fork, also N. middle and S. forks of branches	Embarrass River Imp. Co.	No Limit---	Logging and improvement of navigation	May collect tolls, Chap. 207 Laws 1873, repeals Sec. 5, in re Powers of Directors. Chap. 166, Laws 1874 reestablishes Sec. 5. North Fork to be improved from its mouth to S. line, Sec. 15, T. 27 N., R. 13 E., within 1 year. Middle Fork to be improved from its mouth to west line, T. 27 N., within 3 years. South Fork to be improved from its mouth to S. line Sec. 15, T. 27 N., R. 13 E., to line Sec. 10, T. 26 N., R. 12 E.

## SHAWANO COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1869	223	-----	Streams connect- ing White Clay Lake, Mud Lake, Shawano Lake.	Gustave Lawrence, et al	No Limit---	Logging	
1869	290	Sec. 19, T. 26 N., R. 15 E., Lot 3.	Embarrass-----	E. R. Murdock-----	No Limit---	Logging and im- provement of navi- gation	May collect tolls. Liable for damages for overflowed lands.
1870	463	Sec. 2, T. 27 N., R. 14 E.	Red-----	B. H. Overton-----	No Limit---	Log driving-----	Flood dam.
1878	113	Between W. line, T. 27 N., R. 13 E. and Sec. 15, T. 28 N., R. 11 E.	Embarrass-----	A. S. Trow, et al-----	No Limit---	Facilitate logging----	Act is an amendment to Chap. 249, Laws 1876 that gave right to collect toll to persons mak- ing certain improvements on a certain portion of Embarrass River. May improve river below range line between T. 27 N., R. 12 E., and 13 E., with consent of Embarrass River Improvement Co.
1879	213	N. E. ¼, Sec. 25, T. 27 N., R. 15 E.	Wolf-----	C. D. Westcott, et al--	No Limit---	Hydraulic and boom- age	All acts repealed by Chap. 235, Laws of 1889.
1880	49	N. ½, S. W. ¼, Sec. 10, T. 26 N., R. 12 E.	Embarrass-----	F. S. Breed-----	No Limit---	Hydraulic and boom- age	Shall not raise water more than 18 feet.
1881	57	T. 26 N., R. 11 E., or T. 26 N., R. 12 E.	Embarrass (South Branch,)	Fr. R. Newbold and Robt. R. Livingstone	15 years----	Render stream navi- gable for logs	Chap. 449, Laws 1889, repeals authority to erect dams in T. 26 N., R. 11 E.

SHEBOYGAN COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1846	P.201	Sec. 28, T. 15 N., R. 23 E.	Any stream-----	Carroll Mfg. Co.-----	No Limit---	Power	
1847	P.179	Sec. 28, T. 15 N., R. 23 E.	Sheboygan-----	Sam'l. Ormsby-----	No Limit---	Power-----	Mill Dam Act effective.
1854	98	Sec. 31, T. 15 N., R. 23 E. Lots 2 & 3.	Sheboygan-----	Jonathan Leighton---	No Limit---	Hydraulic-----	Dam to be 8 feet above high water mark.
1857	318	On stream running through place called "Batavia," Town of Scott.	-----	E. W. Chapin-----	No Limit---	Hydraulic-----	Also construct race within 100 yards of state road.
1876	195	N. E. ¼ Sec. 32, T. 15 N., R. 23 E.	Sheboygan-----	G. H. Brickner-----	No Limit---	Manufacturing and other	Dam to be of height necessary for manufacturing and other purposes. Must pay for damages.
1885	363	S. E. ¼ Sec. 13, T. 16 N., R. 20 E.	Sheboygan-----	Hen. Huson-----	No Limit---	Improvement of navigation	Not to exceed 10 feet in height.

## TAYLOR COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1878	239	Sec. 3, T. 33 N., R. 1 W.	Mondeaux Creek	Wm. Miller-----	No Limit---	None specified-----	Dam not to exceed 11 feet in height. Right to maintain dam. Must hold water back for log driving.
1879	191	Sec. 24, T. 32 N., R. 2 W.	Yellow (South Fork)	Wm. Baker-----	No Limit---	Not specified-----	Build dams on river to improve river and facilitate log driving. Amended Chap. 253, Laws 1881, changes Sec. 24 to 36; in regard to toll.
1879	229	Between W. line of Sec. 17, T. 32 N., R. 1 E. and S. line Sec. 13 T. 33 N., R. 1 W.	Mondeaux Creek	S. B. Garland-----	No Limit---	Facilitate log driving-	
1880	77	Sec. 30, T. 31 N., R. 1 W.	Black-----	A. E. Sawyer, et al--	No Limit---	Facilitate log driving	
1881	221	Above Wisconsin Central R. R. crossing	Silver Creek-----	John Duncan-----	No Limit---	Facilitate log nriding	Unlawful to build dams above this one without sluices and gates.
1882	277	N. E. $\frac{1}{4}$ , S. E. $\frac{1}{4}$ , Sec. 27, and N. $\frac{1}{2}$ , S. E. $\frac{1}{4}$ , Sec. 26, T. 32 N., R. 1 E.	Black River-----	Charles H. Moss-----	No Limit---	Power and boomage-	Subject to Chap. 70 and 146, Revised Statutes. Mill Dam Act applies.
1883	289	S. W. $\frac{1}{4}$ , S. W. $\frac{1}{4}$ , Sec. 1, T. 30 N., R. 1 E.	Little Black-----	E. R. Urquhart, et al	No Limit---	Power, manufac- turing and log driv- ing	Amendment Chap. 377, Laws 1887.

# Railroad Commission Report

## TAYLOR COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1883	130	Sec. 15, T. 30 N., R. 1 W.	Pine Creek-----	Thomas Kerns-----	No Limit---	Facilitate Log Driving	Mill Dam Act applies.
1883	326	T. 31 N., R. 4 W----	Yellow-----	J. F. Ellis, et al-----	No Limit---	Power, manufacturing and log driving	
1887	337	S. W. ¼, S. W. ¼, Sec. 1, T. 30 N., R. 1 E.	Little Black-----	G. S. Davis, et al-----	No Limit---	Logging-----	May collect toll.
1893	194	Sec. 19, T. 31 N., R. 4 W.	Elder Creek-----	Charles W. Hanson--	No Limit---	Log driving-----	Mill Dam Act applies.
1907	514	Sec. 12, T. 33 N., R. 1 E.	Silver-----	C. F. Stout, et al-----	No Limit---	Power and improvement of navigation	Subject to Chap. 350, Laws 1905, to be started within 4 years. Rights to cease if operation ceases for a continuous period of 2 years. Not to exceed height sufficient to furnish 21 ft. head.
1907	329	Sec. 28, T. 32 N., R. 3 E.	Big Rib and tributaries	Wausau Lumber Co.-	No Limit---	Logging	



## TREMPEALEAU COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1864	447	Near Mouth of river	Black River and lakes near mouth	Black River Improvement Co.	25 years----	Improvement of navigation	Right to build dam not granted by original act, Chap. 84, Laws 1864, incorporating this company. Re—stock and tariff and gives right to build dams. Amended Sec. 12, Chap. 84, P. & L. 1864. Chap. 225, Laws 1880, right to close meandered channels at head of Black Snake and in regard to settlement with owner of property. Amended Chap. 84, Laws 1864. Chap. 263, Laws 1882, time extended to 25 years from and after March 1, 1889, and right to increase stock.
1876	34	Sec. 17, T. 20 N., R. 10 W., Lots 7 and 2.	Trempealeau----	W. H. Decker-----	No Limit----	Manufacturing and other purposes	Dam to be of height necessary for manufacturing and other purposes. Must pay damages for flowage.
1903	206	South end, Sec. 1 or 2, T. 18 N., R. 8 W., Lot 5, Sec. 1—Lot 7, Sec. 2. North end, Sec. 1 or 2, T. 18 N., R. 8 W., Lot 4, Sec. 1, Lot. 1, Sec. 2.	Black-----	La Crosse & Northern Railway Co.	No Limit----	Hydraulic and improvement of navigation	Height of dam not to exceed 24 feet above low water.

VERNON COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1881	67	N. E. ¼, S. E. ¼, Sec. 24, T. 12 N., R. 3 W.	Kickapoo-----	A. C. Cushman-----	No Limit---	Hydraulic and log driving	Dam not to be over 5 feet in height in low water.
1903	400	Village of Reeds-town, Lot 1, Block 1, West side. Lot 2, Block 1, East side.	Kickapoo-----	G. W. Henika, et al--	No Limit---	Hydraulic-----	Dam built in 1901 here legalized

VILAS COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1897	190	Sec. 36, T. 40 N., R. 9 E., Lots 7 and 8.	Wisconsin-----	W. S. Walsh, et al---	No Limit---	Hydraulic and improvement of navigation	Dam not to exceed 20 feet in height. Repealed by Chap. 483, Laws 1905.
1899	331	Sec. 14, T. 41 N., R. 6 E.	Manitowish-----	H. W. Wright-----	No Limit---	Facilitate log driving-	Dam not more than 3 feet high above low water mark.
1903	364	S. W. ¼, Sec. 18, T. 39 N., R. 6 E.	Tomahawk-----	Jno. Woodlock-----	No Limit---	Hydraulic	
1905	483	Sec. 36, T. 40 N., R. 9 E., Lots 7 and 8, Town of Eagle River.	Wisconsin-----	Town of Eagle River	No Limit---	Lighting, Water Works and other purposes	See Chap. 350, Laws 1905; grant to W. H. Dick; to be constructed within 4 years, dam not to exceed 20 feet in height. May sub-lease electric power, not longer than 20 years. Repeals Chap. 190, Laws 1897.
1907	489	S. W. ¼, S. W. ¼, Sec. 14, T. 41 N., R. 6 E.	Trout Creek-----	R. C. Schultz-----	No Limit---	Power and improvement of navigation	Chap. 331, Laws 1899. Subject to Chap. 350, Laws 1905. To be started within 4 years. Rights to cease if operation ceases for continuous period of 2 years.

## WASHBURN COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1885	75	Sec. 35, T. 41 N., R. 10 W.	Namakagon-----	J. Bran, et al-----	No Limit----	Improvement of navigation	Water not to be raised over 18 feet above ordinary level.
1887	223	Sec. 12, T. 42 N., R. 12 W.	Totogatic-----	G. Torinus, et al-----	20 years-----	Holding logs-----	Subject to Chap. 146, revised statutes.
1889	49	Sec. 27, T. 37 N., R. 12 W.; Sec. 7, T. 40 N., R. 16 W.; Sec. 20, T. 39 N., R. 14 W.; Sec. 10, T. 38 N., R. 13 W. Four dams.	Yellow-----	Wm. Chalmers-----	No Limit----	Logging and improvement of navigation	May collect toll. Subject to Mill Dam Act, and Sec. 1777, Revised Statutes. Repealed Mar. 14, 1895, Chap. 27.
1891	149	S. ½, S. W. ¼, Sec. 6; N. ½, N. W. ¼, Sec. 7, T. 39 N., R. 11 W.	Spring Brook-----	Wm. Chalmers-----	No Limit----	Log driving-----	All conflicting acts repealed. Repealed Chap. 28, Laws 1895, August 1.
1905	11	N. W. ¼, S. E. ¼, Sec. 31, T. 39 N., R. 12 W.	Yellow-----	Village of Spooner----	No Limit----	For a system of water works and electric lights	Dam not to exceed 15 feet in height from bed of stream. Mill Dam Act applies.

## WASHINGTON COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1843	P.21	N. W. ¼, Sec. 23, T. 9 N., R. 21 E.	Milwaukee	Hy. Thien	No Limit	Hydraulic, and improvement of navigation	Chap. 150, Laws 1854 repeals lock requirement.
1846	P.93	E. ½, N. E. ¼, Sec. 25; [S. W. ¼, Sec. 25; N. W. ¼, Sec. 36;] T. 11 N., R. 21 E.	Milwaukee	None named	No Limit	Power	Mill Dam Act effective. Amended Chap. 159, Laws 1855 grants right on different location. See bracketed under section. Dam not to exceed 6 feet above high water.
1847	P.103	Sec. 34, T. 12 N., R. 21 E.	Milwaukee	Michael Bratt	No Limit	Power	Mill Dam Act effective. Slides to be 15 feet wide. Not to cause a drop of over 3 feet for 18 feet of smooth water.
1847	P.103	N. E. ¼, Sec. 24, T. 10 N., R. 21 E.	Milwaukee	Phineas M. Johnson	No Limit	Power	Mill Dam Act effective. Slides to be 15 feet wide. Not to cause a drop of over 3 feet for 18 feet of smooth water.
1847	P.103	S. E. ¼, Sec. 24, T. 10 N., R. 21 E.	Milwaukee	None named	No Limit	Power	Mill Dam Act effective. Slides to be 15 feet wide. Not to cause a drop of over 3 feet for 18 feet of smooth water.
1847	P.103	Sec. 25, T. 10 N., R. 21 E.	Milwaukee	Benj. H. Moores	No Limit	Power	Mill Dam Act effective. Slices to be 15 feet wide. Not to cause a drop of over 3 feet for 18 feet of smooth water.
1848	P.43	Sec. 6, T. 11 N., R. 21 E.	Milwaukee	Jos. Carley, Benj. Brown	No Limit	Power	Mill Dam Act effective.
1848	P.44	Sec. 1, T. 10 N., R. 21 E.	Milwaukee	Geo. C. Daniels	No Limit	Power	Mill Dam Act effective.

## WASHINGTON COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1848	P.126	Sec. 12, T. 11 N., R. 20 E.	Milwaukee-----	Barton Salisbury-----	No Limit---	Power-----	Mill Dam Act effective.
1849	40 Terr. Laws.	N. E. ¼, S. E. ¼, Sec. 10, T. 11 N., R. 21 E., Lot 5.	Milwaukee-----	Oscar Day-----	No Limit---	Power	
1851	80	Sec. 29, T. 12 N., R. 21 E.	Milwaukee-----	Geo. W. Foster-----	No Limit---	Hydraulic-----	1855, Chap. 88 gives power to erect dam in Sec. 28.
1855	144	N. E. ¼, Sec. 21, T. 10 N., R. 18 E.	Rubicon-----	Geo. Rossman, et al.	No Limit---	Hydraulic	
1866	71	T. 9, 10, and 11 N., R. 17, and 18 E.	Rubicon River, Pike Lake, and tributaries	Rubicon Hydraulic Co.	No Limit---	Hydraulic-----	Mill Dam Act effective for damages. Amended Chap. 201, Laws 1867, re damages. Amended Chap. 144, Laws 1868, re damages.
1867	26	(See Ozaukee County)					
1891	150	N. E. ¼, N. E. ¼, Sec. 25, T. 9 N., R. 18 E.	Oconomowoc-----	E. W. Dierks-----	No Limit---	Hydraulic and man- ufacturing	Height of dam not to exceed 6 feet.

WAUKESHA COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1842	P. 8	S. W. ¼, Sec. 9, T. 7 N., R. 19 E.	Pewaukee Lake Outlet	Asa Clark-----	No Limit ---	Hydraulic -----	
1856	376	S. W. ¼, Sec. 25, T. 6 N., R. 18 E.	White Creek-----	Mortimer L. Sayles, et al.	No Limit ---	Hydraulic-----	Provide for floods by waste weir.

WAUPACA COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks.
1855	325	Sec. 22, T. 23 N., R. 12 E.	St. Lawrence-----	Caleb S. Ogden, et al	No Limit---	Hydraulic-----	On any land owned.
1857	99	Sec. 36, T. 22 N. 12 E.	Waupaca-----	E. E. Gormar, et al	No Limit---	Hydraulic-----	Slide of sufficient size to pass raft 20 ft. wide and drawing 20 inches of water.
1857	360	S. E. ¼, Sec. 8, T. 22 N., R. 14 E.	Little Wolf-----	Benjamin F. Phillips Jas. Meikljohn	No Limit---	Improvement of navigation and logging	Dam not to raise water more than 11 feet. Amendment Chap. 98, Laws 1862 repeals Sec. 3 and 4 of this act. (Sec. 3 & 4 gave right to collect toll.)
1867	586	Sec. 34, T. 23 N., R. 13 E.	Little Wolf-----	Jas. Meikljohn-----	No Limit---	Logging-----	Not to raise water to exceed 10 feet. Amended Chap. 188, Laws 1881, re collecting tolls.
1867	587	E. ½, N. E. ¼, Sec. 1, T. 20 N., R. 13 E.	Little Wolf-----	J. P. Moore & Bro---	No Limit---	Logging-----	May collect tolls.
1867	502	W. ¼, S. W. ¼, Sec. 8, T. 22 N., R. 14 E.	Little Wolf-----	Wisconsin Mfg. Co., et al.	No Limit---	Logging and improvement of navigation	Amendment Chap. 220, Laws 1868. Shares franchise with Sterling & Heath. Amendment Chap. 296, Laws 1875 re tolls. repealed by Chap. 297, Laws 1882.

## WAUPACA COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1870	480	See Remarks-----	Little Wolf-----	Little Wolf River Impr. Co.	No limit----	Log driving-----	Height of dam not to exceed 12 feet.
1870	480	See Remarks-----	Little Wolf-----	Little Wolf River Impr. Co.	No Limit----	Improvement of navi- gation	If any person or company have dam or portion of dam at any point where these dams are authorized to be built, company shall pay owner in stock for value, except dam No. 4, the value of which site is to be paid in cash (or equivalent). Company may build flood or rolling dams, 7 in number, as follows: No. 1 at or near head of Cedar Rapids. No. 2 at or near head of Big Falls. No. 3 at or near head of Dells Rapids. No. 4 at or near head of Remer Rapids. Nos. 5, 6, and 7 may be built anywhere between dam No. 4 and east line of Sec. 1, T. 25 N., R. 10 E. May build on any lands (pay damages). Amendment of Chap. 226, Laws of 1875, pertains to toll only.
1873	159	N. E. ¼, Sec. 34, T. 24 N., R. 13 E.	Little Wolf-----	S. C. Ogden, et al----	15 years-----	Log driving-----	Height of dam 12 feet. Amend- ment Chap. 258, Laws 1877, per- tains to toll rates. Amendment Chap 92, Laws 1878, repeals Chap. 258, Laws 1877. Amendment Chap. 226, Laws 1887, duration of grant changed to 30 years. Re- serve clause added to Chap. 226.



## WAUPACA COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1874	289	N. W. ¼, N. W. ¼, Sec. 34, T. 25 N., R. 11 E.	Little Wolf-----	W. D. Mihills, et al--	No Limit---	None specified-----	Dam to raise water not to exceed 9 feet.
1875	169	N. W. ¼, S. W. ¼, Sec. 15, T. 23 N., R. 13 E.	Little Wolf-----	J. M. Rounds, & Co--	15 years----	Not specified-----	To maintain dam, not to raise water to exceed 16 feet. Amendment March 15, 1877, Chap. 257 in re toll. Amendment March 25, 1878, Chap. 191 to Chap. 257; repealed Chap. 257 puts in force Sec. 4, Chap. 159 Laws 1873, probably should be of Chap. 169, Laws 1875.
1876	250	N. W. ¼, N. W. ¼, Sec. 10, T. 24 N., R. 13 E.	Little Wolf-----	L. W. Bliss-----	15 years----	Not specified-----	Dam not to raise water to exceed 16 feet. Slides to be open during driving stage, and when not necessary to hold back water for driving purposes.
1879	201	S. E. ¼, N. E. ¼, Sec. 1, T. 22 N., R. 13 E.	Little Wolf-----	G. E. & E. G. Moore	No Limit---	Not Specified-----	Slides to be open during driving stage.
1882	137	S. ½, N. E. ¼, Sec. 35, T. 24 N., R. 12 E.	Blake Brook-----	Raymond Ayers, et al	No Limit---	Facilitate log driving	
1882	297	S. W. ¼, S. W. ¼, Sec. 8, T. 22 N., R. 14 E.	Little Wolf-----	C. M. Wells, et al----	No Limit---	Facilitate log driving-	May collect toll. This act repeals Chap. 503, P. & L. Laws 1867, and Chap. 269, Laws 1875.

## WAUPACA COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1889	23	S. E. $\frac{1}{4}$ , S. E. $\frac{1}{4}$ , Sec. 15, T. 25 N., R. 13 E.	Pigeon, (South Branch)-----	J. Nohr, Sr., et al. ---	No Limit---	Power-----	Not to interfere with rights here- tofore acquired.
1891	186	N. W. $\frac{1}{4}$ , S. W. $\frac{1}{4}$ , Sec. 15, T. 23 N., R. 13 E.	Little Wolf-----	Jas. Meikljohn-----	No Limit---	Hydraulic, manufac- turing and log driv- ing	Repealed April 14, 1899, Chap. 177.
1891	395	Near where line crosses, between Sec. 23 and 26, T. 25 N., R. 14 E.	Little Wolf-----	A. W. Whitcomb, et al.	No Limit---	Not specified-----	Amendment Chap. 437, Laws 1907, R. 12 E. changed to R. 14 E.
1893	203	Sec. 12, T. 25 N., R. 11 E.	Comet-----	Jas. Spaulding-----	No Limit---	Log driving-----	May build dams. All conflict- ing acts repealed.
1895	251	Sec. 21, T. 23 N., R. 13 E., 42 rods north and 12 rods west of quarter post on south side of Sec. 21, T. 23 N., R. 1 E.	Little Wolf-----	N. G. Nelson-----	No Limit---	Manufacturing-----	Dam shall be so constructed as to raise water at dam not to exceed 8 feet. May occupy enough of bed of stream as necessary for erection and main- tenance of mill.
1899	177	N. W. $\frac{1}{4}$ , S. W. $\frac{1}{4}$ , Sec. 15, T. 23 N., R. 13 E.	Little Wolf-----	W. H. Hatton; Arthur Lindsay	No Limit---	Hydraulic, manufac- turing, and boomage.	Dam not to raise water to exceed 16 feet. Right to maintain a dam repeals Chap. 186, Laws 1891.
1899	195	-----	Waupaca-----	R. N. Roberts; S. T. Oborn	No Limit---	Hydraulic, manufac- turing, milling and other purposes	

WAUPACA COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1901	198	S. W. ¼, S. E. ¼ Sec. 8, T. 22 N., R. 14 E.	Little Wolf-----	Casper Faust-----	No Limit----	Hydraulic and boomage	On lands owned or controlled.'
1903	365	N. E. ¼, Sec. 34, T. 24 N., R. 13 E.	Little Wolf-----	H. M. Sever-----	No Limit----	Hydraulic and improvement of navigation	Rebuild and maintain old dam.
1903	385	S. W. ¼, Sec. 5, T. 25 N., R. 15 E.	Embarrass-----	E. F. Decker-----	No Limit----	Hydraulic-----	Dam built by Palmer in 1856, and since maintained by E. F. Decker, here legalized; height not to exceed 9 feet above low water mark.
1907	416	S. E. ¼, S. W. ¼, Sec. 22, T. 25 N., R. 12 E.	Little Wolf-----	F. M. Moffat, et al--	No Limit----	Power and improvement of navigation	Subject to Chap. 350, Laws 1905. To be started within 2 years. Rights cease if operation ceases for a continuous period of 2 years. Not to exceed 15 feet above low water mark.

WAUSHARA COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1870	38	See Remarks-----	Pine-----	Pine River Nav. Co.	No Limit---	Improvement of navigation; confine river to one channel	Build dams anywhere between mouth and village of Poy Sippi or farther.
1903	310	Sec. 24, T. 18 N., R. 10 E.; Sec. 19, T. 18 N., R. 11 E.	White-----	Frank J. Kipp-----	No Limit---	Hydraulic-----	Height of dam not to exceed 40 feet above high water mark. Build dam on land owned.

WINNEBAGO COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1848	P.129	Sec. 22, T. 20 N., R. 17 E.	Fox (N. Branch)	Curtis Reed-----	No Limit---	Power-----	Mill Dam Act effective.
1871	498	Sec. 24, T. 17 N., R. 14 E.	Outlet of Rush Lake	Waukau Cr. Imp Co.	No Limit---	Hydraulic-----	Granted right to discharge water from lake, between October 1 and April 1; to lower it not more than 4 feet. Dam is not to raise water of lake above ordinary level.

WOOD COUNTY

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1847	P.44	N. W. ¼, Sec. 6, T. 22 N., R. 6 E.	Wisconsin-----	Eliphalet S. Miner----	No Limit----	Power-----	Four dams. Dam running diagonally across channel. Also dam across channel below Clinton dam. Also dam from foot of island on which Klein's dam rests, to the head of an island near the rapids. Also dam from foot of last mentioned island to the east main shore of said run.. Chap. 88, Laws 1851 conveys all rights to John Werner. Dams to be begun within 6 months; finished within 2 years.
1856	294	T. 21 N., R. 5 E.-----	Wisconsin-----	Nekoosa Lumbering Co.	No Limit----	Log driving and manufacturing	Listed in Laws as Portage County, but now Wood County. One or more dams. Height not to exceed 18 feet above water level at foot of Whitney Rapids. Amendment Chap. 304, Laws 1868 pertains to toll only. Amendment Chap. 53, Laws 1889. May build not to exceed two dams. If one, height not to exceed 18 feet. If two, aggregate not to exceed 20 feet.

## WOOD COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1857	170	-----	Yellow -----	Yellow River Imp. Co.	No Limit----	Improvement of navigation and log driving	Amendment Mar. 18, 1860, Chap. 34, change some incorporators. Amendment Chap. 398, Laws 1868 pertains to log driving only. Amendment Laws 1868 provisions of Chap. 170 apply to Rocky Run, tributary of Yellow River, up to north line of Sec. 25, T. 24 N., R. 2 E., Wood County. Amendment Chap. 116, Laws 1871 pertains to stock only. Amendment Chap. 12, Laws 1873, pertains to collection of tolls by owners of improvements. Chap. 131, Laws 1873 pertains to corporation, in general, tolls, etc. Chap. 294, Laws 1874 pertains to tolls. Chap. 165, Laws 1879 includes Clark County in grant of Chap. 170. Eminent domain granted. Chap. 44, Laws 1881 as affects dam rights same as Chap. 165, Laws 1879. Chap. 156, Laws 1882 pertains to building of booms, etc.
1871	494	Wood and Portage Counties	-----	Mill Creek Imp. Co.	No Limit----	Log driving-----	Not to infringe upon, injure, or destroy rights or property of any person or persons.

## WOOD COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1872	38	Sec. 8, T. 22 N., R. 6 E.	Wisconsin-----	Reub. C. Lyon-----	No Limit---	None specified-----	Dam not to exceed 3 feet in height. To be built at or within 4 rods below sunken pier or rock. Amendment Chap. 213, Laws 1893. "4 rods" changed to "10 rods."
1874	276	Sec. 2 & 3, T. 21 N., R. 5 E.	Wisconsin-----	John Edwards-----	No Limit---	Log Driving-----	Slide and openings for free passage of logs, lumber, etc. Not to interfere with free navigation of river.
1879	90	Sec. 34, T. 23 N., R. 3 E.	Yellow-----	C. B. & A. E. Long---	No Limit---	None specified-----	Dam not to exceed 10 feet in height.
1880	303	Sec. 14, T. 23 N., R. 1 E.	Black-----	Thos. J. La Flesh----	10 years----	Facilitate log driving--	Chap. 6, Laws 1883 amends Sec. 1, Chap. 303, Laws 1880 by adding to the end of the section "build one dam on Sec. 25, T. 24 N., R. 2 E." Also Sec. 4 is amended in re tolls.
1883	88	Sec. 19, 29, 30, and 32, T. 21 N., R. 3 E.	Little Yellow-----	J. D. Witter, et al---	No Limit---	Log driving-----	Sections of Little Yellow River herein specified declared navigable for logs.
1885	158	Sec. 8, T. 22 N., R. 6 E., Lot 9.	Wisconsin-----	N. L. Bensley, et al---	No Limit---	None specified-----	Not to exceed 10 feet in height. Booms must be maintained.
1885	278	Sec. 18, T. 22 N., R. 6 E., Lot 3.	Wisconsin-----	R. C. Lyons-----	No Limit---	None Specified-----	Not to exceed 10 feet in height. Booms must be maintained.
1887	29	Sec. 24, T. 22 N., R. 5 E.	Wisconsin-----	Centralia Pulp & Water Power Co.	No Limit---	None specified-----	Not to exceed 10 feet in height.

## WOOD COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1889	53	T. 21 N., R. 5 E.---	Wisconsin-----	T. Nash-----	No Limit---	For any power-----	May sell or lease the right to use water power or water. One or two dams. If one, not to exceed 18 feet. If two, not to exceed 20 feet in aggregate height.
1889	236	Sec. 34, T. 23 N., R. 6 E.	Wisconsin-----	G. S. Biron, et al.---	No Limit---	Power, boomage, logging, and improvement of navigation	Not to exceed 13 feet in height. Amend. April 22, 1893, Chap. 209, re height.
1889	316	Sec. 24, T. 22 N., R. 5 E.	Wisconsin-----	F. Carrison, et al.---	No Limit---	Power and improvement of navigation	Not to exceed 13 feet in height.
1889	82	Sec. 25, T. 22 N., R. 5 E., Lots 4 and 5.	Wisconsin-----	John Edwards, et al.---	No Limit---	Power-----	May sell or lease right to use water power or water.
1891	142	Town of Babcock, T. 21 N., R. 3 E.	Yellow-----	H. C. Payne-----	No Limit---	Hydraulic and manufacturing	Dam to be built on land owned. Height not to exceed 8 feet above low water.
1893	210	Sec. 8, T. 22 N., R. 6 E., Lots 4, 7, and 8.	Wisconsin-----	B. G. Chandos-----	No Limit---	Improvement of navigation and hydraulic	May sell or lease right to use water or water power. Height of dam not to exceed 16 feet. Amendment March 27, 1895, Chap. 82. Height of dam may be 20 feet.
1893	265	Hemlock Creek-----	Hemlock Creek--	Jacob Searls, et al.---	No Limit---	To supply canal-----	Not to take more than half of the water from Hemlock Creek.



WOOD COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1893	261	At line of Sec. 14, (Rocky Run)	Rocky Run-----	John Daly, et al-----	No Limit---	To supply canal-----	Not to take more than half the water from Rocky Run.
1895	99	Sec. 17, 19, or 20, T. 22 N., R. 4 E.	Hemlock Creek--	D. S. Arpin, et al----	No Limit---	Feed canal-----	May condemn land 4 rods wide along canal.
1895	77	Sec. 36, T. 22 N., R. 5 E.	Wisconsin-----	L. M. Alexander-----	No Limit---	To propel any kind of machinery	May sell or lease right to use water power. Dam not to exceed 15 feet in height.

## WOOD COUNTY—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1889	53	T. 21 N., R. 5 E----	Wisconsin-----	T. Nash-----	No Limit---	For any power-----	May sell or lease the right to use water power or water. One or two dams. If one, not to exceed 18 feet. If two, not to exceed 20 feet in aggregate height.
1889	236	Sec. 34, T. 23 N., R. 6 E.	Wisconsin-----	G. S. Biron, et al----	No Limit---	Power, boomage, logging, and improvement of navigation	Not to exceed 13 feet in height. Amend. April 22, 1893, Chap. 209, re height.
1889	316	Sec. 24, T. 22 N., R. 5 E.	Wisconsin-----	F. Carrison, et al----	No Limit---	Power and improvement of navigation	Not to exceed 13 feet in height.
1889	82	Sec. 25, T. 22 N., R. 5 E., Lots 4 and 5.	Wisconsin-----	John Edwards, et al----	No Limit---	Power-----	May sell or lease right to use water power or water.
1891	142	Town of Babcock, T. 21 N., R. 3 E.	Yellow-----	H. C. Payne-----	No Limit---	Hydraulic and manufacturing	Dam to be built on land owned. Height not to exceed 8 feet above low water.
1893	210	Sec. 8, T. 22 N., R. 6 E., Lots 4, 7, and 8.	Wisconsin-----	B. G. Chandos-----	No Limit---	Improvement of navigation and hydraulic	May sell or lease right to use water or water power. Height of dam not to exceed 16 feet. Amendment March 27, 1895, Chap. 82. Height of dam may be 20 feet.
1893	265	Hemlock Creek-----	Hemlock Creek--	Jacob Searls, et al----	No Limit---	To supply canal-----	Not to take more than half of the water from Hemlock Creek.

## WOOD COUNTY—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1893	261	At line of Sec. 14, (Rocky Run)	Rocky Run-----	John Daly, et al.-----	No Limit----	To supply canal-----	Not to take more than half the water from Rocky Run.
1895	99	Sec. 17, 19, or 20, T. 22 N., R. 4 E.	Hemlock Creek--	D. S. Arpin, et al.----	No Limit----	Feed canal-----	May condemn land 4 rods wide along canal.
1895	77	Sec. 36, T. 22 N., R. 5 E.	Wisconsin-----	L. M. Alexander-----	No Limit----	To propel any kind of machinery	May sell or lease right to use water power. Dam not to exceed 15 feet in height.

GENERAL PERMITS

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1835	Vol. 4 Terr. Laws Mich.	Rapids of Fox and Rock	Fox and Rock	Wisconsin Impr. Co.	No Limit	Grant to create slack water navigation	Purpose of the company to open a communication by land or water between Green Bay and Mississippi River.
1838	95	Near Rochester (E. bank of river to Fox Isle.)	Des Moines	Rochester & Des Moines Hyd. Co.	No Limit	Manufacturing	Dam of such a height as to cause water sufficient for manufacturing purposes to flow into canal. Canal and sluice to be started within 1 year and completed in 10 years.
1838	23	Milwaukee and Rock Rivers		Milwaukee and Rock River Canal Co.	No Limit	Slack water and navigation	Can construct navigable canal or slack water navigation from town of Milwaukee to Rock River. Route to be determined by corporation. Also can construct necessary feeders; can construct branch canal to connect with Fox or Pishteekee River at or near Prairie Village, Milwaukee County. A.L. endorsement Mar. 26, 1885, Chap. 91 (permit to sell to city of property franchises.)
1839	29	On any land now or hereafter owned by company or on land of any person with consent of person		Beloit Mfg. Co.	No Limit	Not specified	Company to confine manufacturing operations to township of Rock.

1839	59	-----	Pekatonika-----	Pekatonika Nav. Co.	No Limit--	To improve navigation	Company has a right to construct navigable canal or slackwater navigation from point where Illinois state line crosses the river through or along valley of Pekatonika River to Mineral Point or as near thereto as practicable.
1842	P.26	De Pere to La Fontaine	Fox-----	Fox River Imp. Co.--	No Limit---	-----	Can add to capital stock.
1843	P.34	Sec. 21, T. 4 N., R. 12 E.	Rock-----	Clouden and Luke Stoughton	No Limit---	Power-----	Amendments Chap. 333, Laws 1851, and Chap. 117, Laws 1857: not to be over 6 feet above.
1843	P.26	Sec. 35 or 26, T. 1 N., R. 12 E.	Rock-----	Ira Hersey, et al-----	No Limit---	Power-----	Mill Dam Act.
1845	P.91	S. E. ¼, Sec. 29, T. 27 N., R. 7 E.	Wisconsin-----	Wisconsin River Nav. Co.	No Limit---	Improvement of navigation	Work to be commenced and completed within 2 years. Amend. P. 96, Laws 1846. Work to commence within 2 years, and to be completed within 4 years.
1845	P.100	White Rapids-----	Menominee-----	Horace R. Jerome---	No Limit---	Power-----	Mill and Mill Dam Act effective.
1846	104	Sec. 27 & 22, T. 20 N., R. 17 E., Lots 3, 4, 7, 8, 9, and 10.	Fox-----	Harvey Jones-----	No Limit---	Power-----	Dam not to exceed 7 feet above high water. Mill Dam Act effective. Repealed Chap. 130, Laws 1848.
1848	P.13	Sec. 1 & 2, T. 2 N., R. 12 E.	Rock-----	Ira Miltimore, et al--	No Limit---	Power-----	Chap. 214, Laws 1850, so as to recover damages (Amendments).
1848	P.83T	Sec. 17, T. 15 N., R. 10 E.	Fox-----	Wm. A. Barston-----	No Limit---	Power-----	Mill Dam Act effective.
1850	257	-----	Wisconsin from point Boise to main fork of said river next above the Beaulieux Rapids	Upper Wisconsin Navi. & Imp. Co.	No Limit---	Improvement of navigation.	Chap. 325, Laws 1851 repeals this act.

## GENERAL PERMITS—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1851	129	Sec. 34, T. 28 N., R. 20 E. Lots 2 and 7.	Oconto-----	Merrick Murphy-----	No Limit---	Hydraulic-----	Dam to be 10 feet high; Chap. 32, Laws 1862; dam not to exceed 14 feet at high water mark. Chap. 190, Laws 1893; dam not to exceed 20 feet at high water mark.
1851	173	2½ miles above Grigman's Mill	Little Wolf-----	Napoleon B. Millard; A. D. Bonesteel	No Limit---	Hydraulic	.
1851	325	Canal between main channel of Wisconsin River at Little Bull Falls and the slough or channel on which the mill of J. L. Morse stands	Wisconsin-----	Geo. Stevens; Walter P. McIndoe; Charles Shuter; and Chester D. Stevens.	No Limit---	-----	General power to build dams. slides, locks, gates, etc. This act repeals Chap. 257, Laws 1850.
1852	391	On land owned or leased by the company. No particular stream or streams specified	-----	Waukesha Mfg. Co.--	No Limit---	Hydraulic	.
1852	76	Sec. 30, T. 1 N., R. 20 E.	Fox-----	Jos. Davenport-----	No Limit---	Hydraulic-----	Dam to be 4 feet above low water mark.
1852	275	Menominee Shioc. one mile above its junction with Wolf River	-----	Frederick Davis-----	No Limit---	None specified-----	Dam to be 7 feet high.

1852	324	Wisconsin River from Stevens Point, Portage County and Wausau, Marathon County, and Slough in Little Bull Island	-----	Little Bull Falls Im. & Steam Nav. Co.	No Limit---	Improvement of navigation	
1853	81	On any land owned or leased by company. No particular stream or steams designated	-----	Hartford Iron Co.---	No Limit---	Hydraulic	
1853	141	N. E. ¼. S. E. ¼. Sec. 8, T. 23 N., R. 8 E., across "Hay Hole" to a small rock island about 14 rods across one of the channels immediately below the Chaurette Chute to a large cluster of rocks near the center of the river	Wisconsin-----	Wm. Duntan-----	No Limit---	None specified	
1853	152	Sec. 36, T. 22 N., R. 5 E., Lots 8 and 9.	Wisconsin-----	Luther Hanchett, et al.	No Limit---	Hydraulic-----	Dam not to exceed 6 feet in height. Chap. 32, Laws 1889, transfers rights of Luther Hanchett to John Edwards and Walter A. Scott.
1853	221	Caledonia-----	Baraboo-----	Nathan H. Wood----	No Limit---	None specified	
1853	270	N. ½, Sec. 15, T. 13 N., R. 6 E.	Wisconsin-----	John Marshall, et al.	No Limit---	Hydraulic-----	Chap. 69, Laws 1860, repeals this act.

GENERAL PERMITS—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1854	95	On any land which may hereafter be loaned or leased by said company.	-----	Washington Iron Co	No Limit---	Hydraulic	
1854	133	On any land which may hereafter be owned by said company, also authorized to maintain a dam already across Rock River at village of Horicon, Dodge County	-----	Horicon Iron & Mfg. Co.	No Limit---	Hydraulic and improvement of navigation	
1854	331	On any land owned by company. Authorized to maintain upper dam across Beaver Dam Creek. Village of Beaver Dam, Dodge County	-----	Beaver Dam Mfg. Co	No Limit---	Hydraulic and improvement of navigation.	
1854	97	Sec. 8, T. 17 N., R. 11 E.	Race from White River to Fox River	Ezra Wheeler; Dakin	No Limit---	Water power-----	
1854	249	On any land which may be hereafter owned or leased by company No streams specified	-----	Swedes Iron Co-----	No Limit---	Hydraulic-----	Chap. 75, Laws 1855 amends to increase capital stock \$24,000. Chap. 264, Laws 1864, gives right to build floating bridge. Chap. 99, Laws 1867, authorizes company to increase stock to \$300,000. Chap. 112, Laws 1868, repeals Sec. 2, Chap. 99, Laws 1867.



1855	50	On any land owned or leased by company	-----	Appleton Water Power Co.	No Limit----	Hydraulic	Amendment Mar. 14, 1859, Chap. 129, power to build dam on any meandered stream not navigable. Must build slide.
1855	64	Above Lake Winnebago	Fox-----	Fox & Wisconsin Impr. Co.	No Limit----	Improvement of navigation	May flow state lands free.
1856	405	All along the Chippewa River	Chippewa-----	Chippewa River Impr. Co.	No Limit----	Improvement of navigation	Dam all bayous and sloughs that make out of Chippewa. Amendment Apr. 5, 1866, Chap. 286, changes in incorporators only. Amendment Apr. 12, 1866, Chap. 509 gives corporation right to erect dams at head waters and in tributaries of Chippewa for same purposes.
1856	112	-----	Fox and Wisconsin	Fox & Wisconsin Impr. Co.	3 years-----	Improvement of navigation	May appropriate state lands. Act of 1866, Chap. 572, (Apr. 12) extended time to May 1, 1868. Previous amendments Chap. 180 Laws 1860 (Mar. 28) time extended to Apr. 1, 1863. Chap. 212, Apr. 1, 1863, time extended to May 1, 1864.
1856	211	-----	-----	Beloit Mfg. Co.-----	No Limit----	Manufacturing-----	Granted right to "create, purchase, and hold water power."
1857	91	Above the section line between Sec. 19 and 30	St. Croix-----	St. Croix Mfg. & Impr. Co.	No Limit----	Log driving and manufacturing	May build one or more dams.
1857	119	On any lands owned by company	-----	Suamico Lumber Co.	No Limit----	Log driving and manufacturing	

## GENERAL PERMITS—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1857	283	On any lands owned by company	-----	Beloit Improvement Co.	No Limit---	Hydraulic-----	May build dam.
1857	382	At outlet of Lake Shawano and at Red River where it empties into Wolf River	Red and Wolf---	Shawanaw Mfg. Co.--	No Limit---	Manufacturing and improvement of navigation	Build dams at other points, if necessary.
1857	238	See Remarks-----	Rock-----	New England Mfg. Co.	No Limit---	Manufacturing-----	Company given right to "create, purchase, and hold water power" on tract of land on Rock River known as J. Rogans Addition to Watertown—plot 450 feet long—in width from Water St., to Rock River.
1857	154	See Remarks-----	-----	Arena Mfg. Co.-----	No Limit---	Manufacturing-----	Company given right to "create, purchase, and hold water power." Business at plant or plants of Mrs. A. L. Beaumont.
1859	200	Above Shepherd and Valentine's Mill	Black-----	Black River Impr. Co.	20 years----	Improvement of navigation and logging	May put a dam or dams at any point above Shepherd and Valentine's Mill across river, sloughs, outlets or cut-off.
1859	153	-----	Chippewa-----	Half Moon Lake Canal Co.	None-----	Log Driving-----	Company given right to construct a canal from Chippewa River to Half Moon Lake. May pass through lands and pay damages. Any water power developed to become property of owners of land upon which it

1859	Peshtigo Lumber & Mfg. Co.				<div>is located. Company may build a wing dam in Chippewa River to divert logs. Amendment Chap. 323, Laws 1869. Dam built so logs can be assorted.</div> <div><div>1. Amendment Chap. 133, Laws 1859, changes name to "The Peshtigo Co." Given right to improve navigation of Peshtigo River from mouth as far as Company is disposed to go. Eminent domain granted.</div><div>2. Amendment Chap. 59, Laws 1860, pertains to the succession of rights in case of sale.</div><div>3. Amendment Chap. 26, Laws 1861, rights of Chap. 504, Laws 1856 extended to N. and E. limits of Oconto County, and to Michigan state line; given same rights on Menominee as on Peshtigo.</div><div>4. Amendment Chap. 146, Laws 1863, pertains to capital stock.</div><div>5. Amendment P. 39, Laws 1865, pertains to capital stock.</div><div>6. Amendment Chap. 320, Laws 1866, pertains to capital stock.</div><div>7. Amendment Chap. 122, Laws 1867, amends Chap. 320.</div><div>8. Amendment Chap. 242, Laws 1871, pertains to stock.</div><div>9. Amendment Chap. 13, Laws 1882, pertains to building of booms.</div></div>
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## GENERAL PERMITS—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1860	91	Canal from such a point on Chippewa to Lake as shall, to said company, seem proper	Chippewa (Wing Dam)	Tyrone Lake Canal Co.	No Limit----	To stop logs, etc., and force them through canal into lake.	Purpose of Company to construct canal from Chippewa to Tyrone Lake. If water power is created by canal, said water power shall become the property of the owners of the land upon which said water power is situated. Owners of land aggrieved may have action by law.
1862	35	-----	Eau Claire-----	Eau Claire River Logging Co.	No Limit----	Improvement of navigation and logging	Amendment Mar. 18, 1864, Chap. 157, (in regard to log driving tariff).
1863	298	Race from White to Fox Rivers	-----	Uri Carruth, et al.----	No Limit----	Water Power-----	Have right to enter upon land, in line of race. Damages must be paid. Cannot divert water of White River to the prejudice of any proprietor thereon. Not to interfere with prior rights on White or Fox Rivers.
1864	302	T. 32 N., R. 15 (Head of river) One dam about 80 rods above Willow River Falls, St. Croix County	Willow-----	Willow River Dam Co.	12 years-----	Facilitate logging----	Dam at falls to be of a height sufficient to raise surface of main Willow River at dam 18 feet above the surface of low water mark. at head of Willow River 10 feet. Dams to be ready to sluice logs July 1, 1864. Amendment Mar. 5, 1868, to Chap. 302, takes away right to dam at head of river; extends time for sluicing logs. Dam transferred to C. Burkhardt. Chap. 361, Laws. 1869.

1864	126	-----	Little Wolf-----	Little Wolf River Log Driving Co.	No Limit----	Improvement of navi- gation, and facilitate logging	Given right to all powers requisite and necessary for the full and free exercise and enjoy- ment of all the powers and privileges granted by act.
1868	265	Sec. 11, T. 23 N., R. 13 E.	Little Wolf-----	John R. Buckstaff, et al.	No Limit----	Logging-----	May collect toll. Probably not built; no record.
1868	385	See Remarks-----	-----	Green Bay Lumber Co.	No Limit----	Logging and power--	At such place or places in this state or adjoining states as the Board of Directors may select.
1868	376	Sec. 12, T. 32 N., R. 17 W.	Apple-----	Geo. Gove-----	15 years.----	Logging-----	Amended by Chap. 216, Laws 1872, granting Eminent Domain, as per Mill Dam Act. Dam not to exceed 12 feet.
1869	411	Sec. 5, T. 27 N., R. 18 E., Lots 2 and 3	Oconto-----	L. S. Linsey-----	No Limit----	Power	

## GENERAL PERMITS—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1869	363	From lower line Sec. 12, T. 29 N., R. 17 E. to upper boundary T. 28 N., R. 19 E. From T. 28 N., R. 19 E. to Sec. 12, T. 29 N., R. 17 E. From forks of Oconto S. Branch, as far as they can be made navigable for driving logs. From N. Branch of Oconto River and its tributaries to N. line of T. 32 N., R. 15, 16, and 17 E. From N. line of T. 32 N., R. 15, 16, and 17 E., up said north branch and its tributaries as far as it can consistently be made navigable for driving logs. T. 29 and 30 N., R. 18 E.; T. 29 N., R. 20 E.	Oconto-----	Northwestern Improvement Co.	No Limit---	Logging	
1870	93	Between lower boundary of Sec. 24, T. 32 N., R. 19 E. and the upper boundary of Sec. 10, T. 35 N., R. 17 E.	Peshtigo-----	Northwestern Impr. Co.	No Limit---	Improvement of navigation	

1870	268	Between lower boundary of Baraboo, Sec. 33, T. 12 N., R. 6 E. and mouth	Baraboo-----	Baraboo River Impr. Co.	No Limit---	Improvement of navigation	
1870	299	-----	Beef Slough (Chippewa River)	Beef Slough Mfg., Booming, Log Driving, and Transfer Co.	No Limit---	Log Driving	
1870	354	See Remarks-----	-----	Bayfield Iron Mfg. Co.	No Limit---	Logging-----	May build dams on any land owned or leased.
1870	468	See Remarks-----	-----	Lake Superior Lum. & Land Co.	No Limit---	Logging-----	May build all dams necessary for the holding, driving, or controlling any timber cut from their land, not to interfere with rights of property of any person whatsoever.
1871	467	E. ½, Secs. 7, 8, and 9, T. 25 N., R. 17 E.	East Shioc-----	East Shioc Impr. Co.	No Limit---	Improvement of navigation and log driving	
1871	197	See Remarks-----	-----	Phillips and Colby Construction Co.	No Limit---	Manufacturing-----	Company granted right to do manufacturing required in construction and operation of railways, and construct dams, canals, and races that may be required in business, in this and other states.
1871	240	Between lower boundary of Sec. 24, T. 32 N., R. 19 E., and upper boundary of Sec. 10, T. 35 N., R. 17 E.	Peshtigo-----	Peshtigo River Impr. Co.	No Limit---	Log Driving-----	All acts conflicting or inconsistent with any provision of this act repealed.

GENERAL PERMITS—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1871	302	See Remarks-----	-----	Falkner Browning Constr. Co.	No Limit---	Manufacturing-----	Falkner Browning Construction Co., granted right to do manufacturing of things needed in the construction and operation of railroads. May build dams, etc., for this purpose in this and other states. Name changed to Lake Superior Construction Co., March 11, 1874.
1871	315	See Remarks-----	-----	Wisconsin & Michigan Constr. and Mfg. Co.	No Limit---	Manufacturing-----	Wisconsin & Michigan Construction Co., granted right to do manufacturing of things needed in the construction and operation of railroads. May build dams for this purpose in this and other states.
1871	399	See Remarks-----	-----	Easterly-Shumway Mfg. & Constr. Co.	No Limit---	Manufacturing-----	Easterly-Shumway Manufacturing & Construction Co., granted right to do manufacturing and mining; may build dams, flumes, etc., for this purpose in this and other states.
1871	454	See Remarks-----	-----	Central Wisconsin Mfg. Lumber & Land Co.	No Limit---	Logging-----	Central Wisconsin Manufacturing, Lumber & Land Co., granted right to build all dams necessary for the holding, driving or controlling any timber cut from their lands in the state. Not to interfere with the rights or property or any person whatever.



1874	288	From N. line of T. 38 N.	Thornapple (Branch of Chip- pewa)	Daniel Shaw, et al.	No Limit	Log driving	Amendment Chap. 375, Laws 1876, extends the time limit for completion from 2 to 3 years. Amendment Chap. 163, Laws 1881, in re tolls, etc. Amend- ment Chap. 95, Laws 1883, extends right granted to Daniel Shaw to Eugene and George B. Shaw.
1876	285	Portage City	Wisconsin	Solomon Leach	No Limit	To drive current wheels	Dam to be as high as average low water mark. 110 feet of unobstructed channel on each side of dam erected in middle of stream.
1877	247		Yellow	A. E. Pound	No Limit	Facilitate log driving	Act amends Chap. 12, Laws 1873, which held out inducement to any one who improved Yellow River.
1880	21	Sec. 18, T. 23 N., R. 25 E., along the N. boundary of Lot 6.	Kewaunee	Jes. Erickson, and E. C. Manger	10 years	Booms for holding logs	
1882	251	Dam and improve W. Branch from N. line, T. 28 N., R. 14 E. to T. 30 N., R. 13 E.	Wolf	Fred Davis, et al	No Limit	Facilitate log driving	Confirms Chap. 250, Laws 1874.
1882	260		Brunette	W. Culver	No Limit	Facilitate log driving	Repeals Chap. 281, Laws 1878.
1883	271	Dams, etc., on ditch running through Sec. 27, 28, 21, 22, 15, 16, 8, 9, 5, 4, and 6, T. 20 N., R. 1 E., and through Sec. 31, 32, 29, and 30 T. 21 N., R. 1 E.		D. A. & C. A. Good- year	10 years	Assist cranberry marshes. Facilitate log driving	Subject to Sec. 1473, 1474, 1475, 1476, 1477, and 1478, Revised Statutes of 1878.

## GENERAL PERMITS—Concluded

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1891	111	See Remarks-----	St. Croix-----	Wm. Sauntry-----	No Limit---	Improvement of navigation	May build 3 dams between point where W. line of T. 44 N., R. 13 W., Douglas County crosses river, and point where S. line of T. 44 N., R. 13 W., Douglas County crosses river. Dams shall not raise water more than 12 feet above natural level. Repealed Chap. 293, Laws 1907.
1891	396	See Remarks-----	Montreal-----	James McCrosses, et al.	No Limit---	Improvement of navigation	May build dam or dams at any point between Island Lake at head of river, and the N. line of Sec. 27, T. 46 N., R. 2 E.
1899	209	Sec. 30, or 29 and 30, T. 30 N., R. 7 W.	Chippewa-----	A. S. McGilvray-----	No Limit---	Operate all kinds of machinery	Dam not to exceed 14 feet in height above low water mark, if built north of E. and W. $\frac{1}{4}$ line of Sec. 30 and not to exceed 30 feet above low water mark if built south of said $\frac{1}{4}$ line.
1907	335	N. of S. line of T. 34 N.	Tributaries of Wisconsin	Wisconsin Valley Imp. Co.	No Limit---	Improvement of navigation	May collect tolls under certain restrictions. To report to the railroad commission semi-annually. Eagle River and point lying between where Eagle River enters Cranberry Lake, Sec. 31, T. 40 N., R. 11 E., and Wisconsin River are exempt.

1911	640	Above the N. line, T. 38 N., of Court Orielles River and tributaries. Above junction of East and West Forks of Chippewa River and tributaries. Above the mouth of Thornapple River and Butternut Creek. North Fork of Flambeau River above dam authorized by Chap. 400, Laws 1905. South Fork of Flambeau River, including Elk River, above junction with Flambeau.	Chippewa and Flambeau and tributaries.	Chippewa & Flambeau Impr. Co.	No Limit---	To obtain uniform flow. To aid navigation and log driving. Reduce floods.	Fishways subject to existing statutes. To be under control of railroad commission in regard of valuation of land taken under Eminent Domain. State reserves right to purchase at value determined by the railroad commission. Chap. 759, Laws 1913 amends this act, authorizing the company to construct, acquire, maintain and operate a system of reservoirs located on the headwaters of the Chippewa and Flambeau Rivers and their tributaries.
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MISCELLANEOUS ACTS

Year	Ch.	Location	Contents
1836	33	-----	Wisconsin Mineral & Transportation Co.: Right to erect piers etc. and other necessary improvements on land purchased or owned by company.
1839-40	48	-----	Mill Dam Act: Any person etc. may build a dam on any stream that is not navigable--certain limitations etc.
1840-41		-----	All rivers or streams in territory where meandered and returned navigable by U. S. surveyor declared navigable. No dams to be built on these without consent of the legislature.
1849	98	Black River-----	All dams to have chutes.
1850	195	Milwaukee River----	An act to dispose of the interests of state in Milwaukee & Rock River Canal Company and in the power created on the Milwaukee River.
1850	275	Fox and Wisconsin Rivers	Amending an act for the improvement of the Fox and Wisconsin Rivers and connecting the same by canal. All sections and parts of sections of above act authorizing Board of Public Works to reserve to the state lands valuable for hydraulic, commercial or other purposes and upon which any settler had settlement and claim prior to the reservation made by said board is hereby repealed, provided that this amendment shall not apply to any water power created by the construction of the navigation of the Fox and Wisconsin Rivers, and so much land adjoining same as the Board of Public Works may deem necessary to form a part of said water power.
1850	283	-----	Board of Public Works authorized to consider bids for the improvement of the Fox and Wisconsin Rivers.
1850	Res. 2	Fox and Wisconsin Rivers	Engineer on improvement of Fox and Wisconsin Rivers authorized to survey rapids between Point Barsee and Beaulieux Rapids and submit report to legislature at next session for improvement of said rapids for downward passage of rafts.
1851	38	Fox and Wisconsin Rivers	The superintendent is personally to superintend the works of each contractor in the improvement of the Fox and Wisconsin Rivers.

1851	88	Wisconsin River-----	John Werner, Jr., authorized to improve the Grand Rapids.
1851	120	Lot 9, Blk. 22, along the north side of Canal St. to a point opposite Lot 8 of Blk. 23 thence across it to Lot 5, Blk. 33.	This act authorizes the construction of the mill race upon and across the described land by J. & G. Tomlinson.
1851	179	Fox River-----	An act to enter into a contract with Morgan L. Martin for improvement of Fox River between Lake Winnebago and Green Bay.
1852	282	Apple & Willow Rivers	No dam or boom or other obstruction shall be placed in Apple or Willow River unless the same shall be so constructed as to permit passage of all logs or other lumber without unnecessary delay.
1852	464	Wisconsin River ----	Commissioners of Public Works authorized and required to commence the improvement of navigation of the Wisconsin River below Portage during the present season and to complete it as soon as possible; power given to release hydraulic power at the lift lock on Portage Canal at Ft. Winnebago; the money so obtained to be used in the completion of said canal. (This act is marked repealed in index).
1853	98	Fox and Wisconsin Rivers	This act transferred to powers granted by act of August 8, 1848, and several others supplementary thereto and amendatory thereof, and known as the "Fox and Wisconsin Rivers Improvement," together with all rights of way, dams, locks, canals, water power and other appurtenances, also all rights possessed by the state of demanding and receiving tolls and grants for same so far as state is authorized to grant same, etc. to the Fox and Wisconsin Improvement Company, provided that said improvements shall be free for transportation of the U. S. troops, etc. The state may become owner and proprietor of the works of improvement constructed under this act and of the whole works of improvement at any time after twenty years upon paying to said association the actual cost expended in the construction over and above the land grant made by Congress to aid in the construction, the said lands to be estimated at \$1.25 per acre.
1853	61	-----	Baraboo River declared navigable from its mouth in Columbia County to the east line of T. 13 N., R. 1 E., must not obstruct navigation by construction of bridges. Chap. 225, Laws of 1875, repeals this act.
1853	73	-----	Big Plover River Company of Portage; from its mouth to Pike Lake declared navigable; must not obstruct navigation by construction of bridges. Chap. 100 Laws of 1864, amends this act to read from County of Portage and Marathon from mouth of river up to northern boundary of T. 28 R. 10.

## MISCELLANEOUS ACTS—Continued

Year	Ch.	Location	Contents
1853	121	-----	Wisconsin Mining and Mfg. Co. authorized to use steam or other power.
1853	129	-----	Platteville Mining Co. authorized to run levels for proper drainage and to erect such causeways and fixtures as may be necessary.
1853	136	-----	Wisconsin Mining Company to enjoy all privileges incident to a corporation for the purpose of mining.
1853	159	-----	Beloit Car & Locomotive Mfg. Co. authorized to use steam or other power.
1853	184	-----	Western Wisconsin Mining Co. to enjoy all the privileges incident to a corporation for the purpose of smelting or manufacturing lead or other metals and the ores thereof in the counties of Grant, LaFayette and Iowa.
1853	196	-----	Kenosha Car & Locomotive Mfg. Co. authorized to use steam or other power.
1853	199	-----	Racine Caloric Co. authorized to use caloric, steam or other power.
1853	202	-----	Wisconsin Lumber Mfg. Co. authorized to use steam or other power.
1853	206	-----	North American Mining Mfg. Co. authorized to use steam or other power.
1853	209	-----	Racine Car & Locomotive Mfg. Co. authorized to use steam, or other power.
1853	217	-----	Milwaukee Car Mfg. Co. authorized to use steam or other power.
1853	275	-----	Racine Car & Locomotive Mfg. Co. authorized to use steam or other power.
1853	309	-----	Milwaukee White Lead & Linseed Oil Co. authorized to use steam or other power.
1853	311	-----	Ridgeway Mining & Smelting Co. authorized to make improvement useful in mining and necessary to their business.

1853	318	-----	Globe Navigation Company authorized to use steam or other power.
1853	370	-----	Iowa Mining & Mfg. Co. authorized to use steam or other power.
1853	372	-----	Little Wolf River of Waupaca County declared a navigable stream.
1853	378	-----	Janesville Gas Light Company authorized to erect all necessary works and apparatus.
1853	388	-----	Dodgeville Mining & Mfg. Co. authorized to enter upon and take not to exceed 10 feet in width any land or lands necessary for cutting, diggings, drains or water courses
1854	28	-----	Northwestern Iron Co., authorized to erect, use, own and operate any and all dams, water works, etc. as may be necessary.
1854	248	-----	Ft. Atkinson Steam Mill Co. authorized to use steam or other power.
1855	366	From outlet of Sheboygan Lake to mouth of river	Sheboygan River declared navigable. All dams to maintain slides. Amendment Chap. 221, Laws of 1857. Portion of Sheboygan River W. and above range 23 East to mouth declared navigable. Mar. 16, 1859, Chap. 141, all acts declaring Sheboygan River navigable repealed.
1855	14	From mouth in Buffalo County up two miles or more	Waumandee River or Eagle Creek declared navigable as far as dams of Gearke and Binder.
1855	90	Kewaunee County T. 26 & 26 N. R. 25 E.	Wolf River declared navigable
1856	191	From mouth to Sec. 9 T. 25 N., R. 20 E.	Devil or East River declared navigable
1857	24	Below or east of Sec. line between Sec. 20 & 21 T. 25 N. R. 20 E.	Big Suamico River declared navigable.
1858	44	Wood County South of center of T. 24 N.	Hemlock River declared navigable. All future dams to construct slides for rafts. Slide not less than 22 feet wide.

MISCELLANEOUS ACTS—Continued

Year	Ch.	Location	Contents
1853	121	-----	Wisconsin Mining and Mfg. Co. authorized to use steam or other power.
1853	129	-----	Platteville Mining Co. authorized to run levels for proper drainage and to erect such causeways and fixtures as may be necessary.
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1853	184	-----	Western Wisconsin Mining Co. to enjoy all the privileges incident to a corporation for the purpose of smelting or manufacturing lead or other metals and the ores thereof in the counties of Grant, LaFayette and Iowa.
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1853	318	-----	Globe Navigation Company authorized to use steam or other power.
1853	370	-----	Iowa Mining & Mfg. Co. authorized to use steam or other power.
1853	372	-----	Little Wolf River of Waupaca County declared a navigable stream.
1853	378	-----	Janesville Gas Light Company authorized to erect all necessary works and apparatus.
1853	388	-----	Dodgeville Mining & Mfg. Co. authorized to enter upon and take not to exceed 10 feet in width any land or lands necessary for cutting, diggings, drains or water courses
1854	28	-----	Northwestern Iron Co., authorized to erect, use, own and operate any and all dams, water works, etc. as may be necessary.
1854	248	-----	Ft. Atkinson Steam Mill Co. authorized to use steam or other power.
1855	366	From outlet of Sheboygan Lake to mouth of river	Sheboygan River declared navigable. All dams to maintain slides. Amendment Chap. 221, Laws of 1857. Portion of Sheboygan River W. and above range 23 East to mouth declared navigable. Mar. 16, 1859, Chap. 141. all acts declaring Sheboygan River navigable repealed.
1855	14	From mouth in Buffalo County up two miles or more	Waumandee River or Eagle Creek declared navigable as far as dams of Gearke and Binder.
1855	90	Kewaunee County T. 26 & 26 N. R. 25 E.	Wolf River declared navigable
1856	191	From mouth to Sec. 9 T. 25 N., R. 20 E.	Devil or East River declared navigable
1857	24	Below or east of Sec. line between Sec. 20 & 21 T. 25 N. R. 20 E.	Big Suamico River declared navigable.
1858	44	Wood County South of center of T. 24 N.	Hemlock River declared navigable. All future dams to construct slides for rafts. Slide not less than 22 feet wide.

## MISCELLANEOUS ACTS—Continued

Year	Ch.	Location	Contents
1858	239	-----	All business, contracts etc. transacted by Beloit Water Power Co. declared legal.
1858	243	-----	All business, conveyances etc. of Beloit Paper Mill Co. declared legal.
1859	105	Racine or Milwaukee County	Root River declared navigable; also its tributaries. Slides not less than 15 feet wide, and fishways, fall not more than 5 feet in 12 to be maintained in all dams.
1859	169	-----	Big Plat River—All dams in place, or to be erected thereafter, to have suitable sluices for passage of fish.
1861	272	-----	Act to more clearly determine rights of joint owners of water powers and regulate the uses thereof. Repealed at a later date.
1863	40	Rush River, Pierce Co.	Rush River, Pierce County. declared navigable from Thompson's Mill, Town of Martell to Walker's Mill, Town of El Paso, and from Walker's Mill to mouth of river.
1863	341	-----	Douglas Copper Mining & Smelting Co. may maintain and operate water power. Can conduct business of mining on any land in Douglas County owned or hereafter owned by company.
1863	306	-----	Penokee Iron Mining & Railroad Co. can erect and operate water powers for purpose of mining on land now or hereafter owned by company in Ashland County.
1863	352	-----	Phoenix Lead Mining & Smelting Co. can conduct business of mining etc. on land owned now or hereafter by said company in LaFayette County. Can operate water power for that purpose.
1863	226	-----	Western Mining Company can carry on business of mining anywhere in the state. Can hold, use etc. property and do other lawful acts necessary to carry on business successfully.
1866	48	Buck Creek-----	Navigable for driving logs.
1866	175	West Twin River----	Navigable for driving logs.
1866	124	Black Creek-----	Navigable for driving logs in Outagamie County.

1867	50	Waupaca River-----	All dams must have fishway.
1867	288	Kewaunee River-----	Declared navigable for floating logs.
1867	288	Scarbro River-----	Declared navigable for floating logs.
1867	288	School Creek-----	Declared navigable for floating logs.
1867	40	-----	General law for dam used for Cranberries.
1868	67	Apple River-----	Prohibit overflowing of banks between July 4th, and September 4th.
1868	84	Shioc River-----	Declared navigable from headwater to its mouth where it joins Wolf River.
1868	11	Kinnickinnic River--	Declared navigable from confluence with Milwaukee River to Clinton Street.
1869	417	Outlet to channel of Second Lake	Applies to temporary dams.
1869	488	Duck Creek-----	All owners of dams to construct fish slides except in Brown County.
1869	79	Apple River-----	All owners of dams liable for damages caused by overflow.
1869	156	Balsam Branch-----	Declared navigable in Polk County.
1869	156	Sucker Branch-----	Declared navigable in Polk County.
1869	156	Sucker Branch-----	Declared navigable in Polk County. Repealed Chapter 396, April 4, 1876.
1870	78	State-----	Act pertaining to propagation of Brook trout. Any persons desiring to raise such fish may build dams, etc., on land owned by them. Must not obstruct navigation of navigable water or interfere with other water privileges previously acquired.
1870	91	West Twin River----	Any company now or hereafter authorized to build dam on West Twin River must not cause it to overflow its banks, lands and meadows adjacent at any time between June 15th and September 30th. If flowage occurs, damage may be collected by owners.

## MISCELLANEOUS ACTS—Continued

Year	Ch.	Location	Contents
1871	357	Below the Village of Richland Center	All dams hereafter built below the Village of Richland Center shall be provided with sufficient locks so as not to interfere with navigation of Pine River.
1871	461	Outagamie and Brown Counties and Oneida Reservation	All dams in or to be placed in Duck Creek or any of its tributaries, in to have fishways.
1873	283	O'Neill's Creek-----	O'Neill's Creek, tributary of Chippewa River, declared navigable. Also owners of timber land may build dams to float their timber; applies to owners of dams on stream.
1874	168	La Crosse River-----	All mill dams in place or to be erected below mill dam at Angelow, Monroe County, to have fishways.
1875	170	Waupaca River-----	Waupaca River declared navigable for log driving between mill of J. Nelson, Amherst, Portage County, and place where stream crosses range line between ranges 9 and 10.
1875	250	West branch of Kickapoo	A public highway in all its meanderings between the north line of T. 12 N., R. 3 W., Vernon County, and junction of west branch with main river. Repealed by Chap. 79, March 6, 1878.
1876	115	Kinnickinnic River--	Part of Kinnickinnic River that runs through southeast quarter of Sec. 8, Town of Lake, Milwaukee County, declared navigable.
1876	219	Eau Claire River----	Certain inducements to persons improving north and south branch. Eau Claire River.
1876	249	Embarrass River Shawano County	Inducements to parties improving river between west line, T. 27 N., R. 13 E. and Sec. 15 T. 28 N., R. 11 E.
1876	315	Coon River. Vernon County	Declared navigable between Chaseburg and Mississippi River.

1876	382	-----	To authorize owners of rights to use water from power created by Monterey dam (constructed under act territory laws of Feb. 21, 1848); to pay judgment recovered for flowage or injury to land; to create a lien for such payment; to enforce the same by contribution and sale, and for repairs; to bar and foreclose the right in said dam and water power of the defendants against whom such judgments are rendered in case they fail to pay the same; and to adjudge such judgments, take a lien on said dam and water power and authorize the sale thereof.
1876	399	-----	All incorporated companies organized under Chapter 144, general law of Wisconsin 1872, and acts amendatory thereof, for purpose of driving logs on rivers of state and improvement of rivers for said purpose, are authorized to improve said rivers by building side, rolling, flooding dams, etc. or otherwise to facilitate log driving and improve navigation. Subject to Mill Dam Act. Works not to obstruct navigation. Toll may be collected. No dam to be built in state on a river below first natural impassable barrier to steam boat navigation existing above its mouth.
1879	145	Green Lake County--	All dams erected or heretofore erected across outlet of Big Green Lake to have fishway.
1879	213	Wolf River-----	S. W. ¼ Sec. 25, T. 27 N., R. 15 E., Shawano County. All charters for dams repealed.
1880	248	Iowa and Lafayette Counties	Owners of dams to maintain fishways. Amended by Chapter 296, Laws of 1881, making this act applicable to Crawford and Vernon Counties. Chapter 147, Laws of 1882, repeals these acts.
1880	279	-----	Amends Chapter 86, Sec. 1777, Revised Statutes, and defines how dams may be constructed on other than navigable rivers without legislative authority.
1881	196	Richland County----	Knapp's Creek in Richland County made navigable from Mosier Dam to mouth where it flows into the Wisconsin. Dams in the above district to be provided with suitable slides or chutes 12 feet wide for the passage of rafts, logs, lumber, etc.
1881	239	Wisconsin and Black Rivers	Chutes 40 feet wide shall be provided for passage of rafts and water craft. Grade 5 feet in 50 feet.
1881	203	-----	Amends Secs. 3149, 3150, 3151, and 3152 of Chapter 134, Revised Statutes on water power.
1881	306	Town of Lodi, Columbia County	Compels owners to construct fishways in dams. Chapter 47, Laws of 1882, repeals this act.

## MISCELLANEOUS ACTS—Continued

Year	Ch.	Location	Contents
1881	408	Big Green Lake, Green Lake County	Orders construction of fishways and outlet.
1882	256	Mississippi River and headwaters	Cedes to U. S. all claims to lands owned by the state overflowed by dams, etc.
1883	32	-----	Amends Sec. 1472, Chapter 61, Revised Statutes, authorizing the construction of dams; etc. for aid in culture of cranberry marshes if such do not interfere with like work of others.
1883	88	Little Yellow River between and through Secs. 19, 29, 30, 32, T. and 21 N., R. 3 E. in Wood County	Declared navigable.
1883	126	Lafayette County---	Provides for passageway for fish through all dams. (See also Chap. 248, Laws of 1880, and Chap. 296, Laws of 1881, repealed by Chapter 147, Laws of 1882).
1887	169	Racine and Waukesha Counties	Power to condemn dams in reclamation work.
1887	415	Willow River, St. Croix County	Fishways to be provided in dam or dams on outlet of Willow River.
1887	423	Rock River, Rock Co.	Prohibiting dumping or placing of refuse in river.
1887	525	Dane County-----	Power to condemn dams in drainage work.
1889	215	Between south line T. 35 N., R. 19 W., and north line of T. 36 N., R. 20 W., Polk County	All dam rights repealed, except one granted by Chapter 224, Laws of 1882.

1889	431	From north line of Sec. 19 T. 33 N., R. 10 W., to outlet in Little Lake Chetek, Rice Creek, Barron County	Declares creek navigable for steam boats.
1889	477	Rock River, Rock County	Fishways to be provided in dams owned by individuals. Amended May 5, 1891, Chapter 345 (to include corporations).
1889	511	Catfish River, Dane County.	Fishways to be provided in all dams.
1891	251	Douglas County-----	Brule River; Dams built or to be built to have fishways. Must be maintained in good shape from June 15th to October 1st of each year.
1891	422	State-----	Requiring all persons, companies or corporations operating or controlling dam to send report of earnings to state treasurer each year. Pay annual license of 2% of gross earnings. Chapter 250, Laws of 1893, repealed Chapter 422, but re-enacted provisions to same effect.
1891	448	Dunn County-----	Fishways to be constructed in all dams in Dunn County; to be kept open from March 1st to June 5th of each year. All conflicting acts repealed.
1891	451	Jackson and Trempealeau Counties	All dams in Trempealeau River to have fishways constructed in them; to be kept open from March 1st to May 15th each year. All conflicting acts repealed.
1895	254	-----	No construction to be built across the Yahara River, Lake Monona, or Lake Waubesa, in Town of Blooming Grove, Dane County, except it has opening in center not less than 12 feet wide and 6 feet high from high water mark. Not to apply to construction prior to this date on Yahara, Lake Monona or Lake Waubesa in the city of Madison or Secs. 6 and 7, town of Blooming Grove. Changes to be made by July 1, 1895.
1895	328	-----	All meandered lakes to be public waters.
1895	337	-----	Fishways to be constructed in all dams erected or to be erected on or across any waters of Wisconsin. Fish commission can suspend act if way is not necessary. In effect May 1, 1896. Repealed by Chapter 253, April 17, 1897.

MISCELLANEOUS ACTS—Concluded

Year	Ch.	Location	Contents
1897	219	Between S. ½ Sec. 27 T. 22 N., R. 11 E. and S. Line of Sec. 4 & 5 T. 29 N., R. 11 E.	Chain of lakes declared navigable: Clem, Hicks, Rainbow, McCrossen, Round, Columbia and Long together with connecting waters. Obstruction of lakes and connecting waters unlawful.
1897	279	-----	In regard to trials over water power. Amends Sec. 3152, Chapter 134, Revised Statutes.
1897	305	-----	A. L. Himebaugh et al. given right to enter upon and improve waters stated below, not occupied by corporation for like purpose, and build booms and such other appliances as may be necessary for purpose of picking up and securing lost logs, etc. lying along or adjacent to shores or banks of any water of Lake Superior or any arm or bay thereof in Douglas County and that part of Bayfield County in and lying west of Burk Bay or bordering thereon and to improve the navigation. May collect toll. Has reserve clause.
1899	288	-----	Provides for organization of corporations for improvement of streams and construction of canals for navigation purposes and granting to such corporation additional powers to those granted by Chapter 85, Wisconsin Statutes of 1898. Addition in regard to flowage, acquiring of lands, etc.
1899	207	Big Eau Pleine and Little Eau Pleine, Rivers, Marathon County	Fishways to be built in dams on these rivers.
1901	128	Wood and Juneau Counties	Fishways must be maintained in all dams in Yellow River (in Wood and Juneau Counties). To be maintained for easy passage from March 1st to June 1st of each year.
1901	218	Price County-----	Fishways must be put in all dams in Big Elk River and south fork of Flambeau River in Price County. Maintained in good shape from March 1st, to May 15th each year.
1901	229	State-----	Any town, city or village may erect dam to create power for lighting and other purposes within limits of town, city or village. Mill Dam Act applies in getting flowage rights (this act only extends privileges of Mill Dam Act to towns, etc.).



1903	334	Dane and Jefferson Counties	Fishways must be provided in Koshkonong Creek, maintained from March 1st, to June 1st of each year. Conflicting acts repealed.
1905	234		Amends Chapter 134, Laws of 1898, by adding five sections relating to and defining riparian rights and water frontage.
1905	521		All franchises heretofore granted for dams across navigable streams in the state which have not been exercised by the commencement in good faith of the work of construction within four years from date and passage of this act are forfeited and terminated. Ditto when work is not commenced within four years from date of passage and publication of act granting franchises hereafter.
1905	186	Koshkonong Creek, Dane and Jefferson Counties.	Repeals Chapter 334, Laws of 1903, requiring fishways in dams on this creek.
1905	460	Brule River, Douglas County.	Dams prohibited on this river or tributaries in this country. All grants heretofore repealed. Nothing herein to affect or interfere with rights granted by Chapter 181, Laws of 1903, nor shall this act be construed as recognizing any rights or privileges as having been granted or as now existing under or by virtue of Chapter 181. No corporation organized under Chapter 86, Laws of 1898, can exercise any of its powers etc. per section 1777-1777a to "f" Laws of 1898 on river or tributaries in the county.
1905	461		Fishways required in all dams etc. on any stream or river in state that is inhabited by game fish three months after being notified by commission of fisheries. Amend Chapter 16, Page 34, December 21, 1905 (fishway to be put in when in opinion of commission of fisheries is necessary and will not injure dam). Amend July 10, 1907, Chapter 488 (repeals Chapter 16, 1905 and all acts or parts inconsistent with act of 1907).
1907	488	General	Repeals all acts inconsistent with it. Fishways to be provided in all dams in the state for game fish. To be built within three months after order from fish commission with penalty for non-building.
1909	282	General	Fish commission delegated the power to cause old and abandoned dams to be removed when they shall deem such dams detrimental to the preservation of fish, upon 60 days notice to the owners or wardens thereof.

## GENERAL PERMITS—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1860	91	Canal from such a point on Chippewa to Lake as shall, to said company, seem proper	Chippewa (Wing Dam)	Tyrone Lake Canal Co.	No Limit---	To stop logs, etc., and force them through canal into lake.	Purpose of Company to construct canal from Chippewa to Tyrone Lake. If water power is created by canal, said water power shall become the property of the owners of the land upon which said water power is situated. Owners of land aggrieved may have action by law.
1862	35	-----	Eau Claire-----	Eau Claire River Log Driving Co	No Limit---	Improvement of navigation and logging	Amendment Mar. 18, 1864, Chap. 157, (in regard to log driving tariff).
1863	298	Race from White to Fox Rivers	-----	Uri Carruth, et al-----	No Limit---	Water Power-----	Have right to enter upon land, in line of race. Damages must be paid. Cannot divert water of White River to the prejudice of any proprietor thereon. Not to interfere with prior rights on White or Fox Rivers.
1864	302	T. 32 N., R. 15 (Head of river) One dam about 80 rods above Willow River Falls, St. Croix County	Willow-----	Willow River Dam Co.	12 years-----	Facilitate logging----	Dam at falls to be of a height sufficient to raise surface of main Willow River at dam 18 feet above the surface of low water mark. at head of Willow River 10 feet. Dams to be ready to sluice logs July 1, 1864. Amendment Mar. 5, 1868, to Chap. 302, takes away right to dam at head of river; extends time for sluicing logs. Dam transferred to C. Burkhardt. Chap. 361, Laws. 1869.

1864	126	-----	Little Wolf-----	Little Wolf River Log Driving Co.	No Limit----	Improvement of navi- gation, and facilitate logging	Given right to all powers requisite and necessary for the full and free exercise and enjoy- ment of all the powers and privileges granted by act.
1868	265	Sec. 11, T. 23 N., R. 13 E.	Little Wolf-----	John R. Buckstaff, et al.	No Limit----	Logging-----	May collect toll. Probably not built; no record.
1868	385	See Remarks-----	-----	Green Bay Lumber Co.	No Limit----	Logging and power--	At such place or places in this state or adjoining states as the Board of Directors may select.
1868	376	Sec. 12, T. 32 N., R. 17 W.	Apple-----	Geo. Gove-----	15 years-----	Logging-----	Amended by Chap. 216, Laws 1872, granting Eminent Domain, as per Mill Dam Act. Dam not to exceed 12 feet.
1869	411	Sec. 5, T. 27 N., R. 18 E., Lots 2 and 3	Oconto-----	L. S. Linsey-----	No Limit----	Power	

## GENERAL PERMITS—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1869	363	From lower line Sec. 12, T. 29 N., R. 17 E. to upper boundary T. 28 N., R. 19 E. From T. 28 N., R. 19 E. to Sec. 12, T. 29 N., R. 17 E. From forks of Oconto S. Branch, as far as they can be made navigable for driving logs. From N. Branch of Oconto River and its tributaries to N. line of T. 32 N., R. 15, 16, and 17 E. From N. line of T. 32 N., R. 15, 16, and 17 E., up said north branch and its tributaries as far as it can consistently be made navigable for driving logs. T. 29 and 30 N., R. 18 E.; T. 29 N., R. 20 E.	Oconto-----	Northwestern Improvement Co.	No Limit---	Logging	
1870	93	Between lower boundary of Sec. 24, T. 32 N., R. 19 E. and the upper boundary of Sec. 10, T. 35 N., R. 17 E.	Peshigo-----	Northwestern Impr. Co.	No Limit---	Improvement of navigation	

1870	268	Between lower boundary of Baraboo, Sec. 33, T. 12 N., R. 6 E. and mouth	Baraboo-----	Baraboo River Impr. Co.	No Limit---	Improvement of navigation	
1870	299	-----	Beef Slough (Chippewa River)	Beef Slough Mfg., Booming, Log Driving, and Transfer Co.	No Limit---	Log Driving	
1870	354	See Remarks-----	-----	Bayfield Iron Mfg. Co.	No Limit---	Logging-----	May build dams on any land owned or leased.
1870	468	See Remarks-----	-----	Lake Superior Lum. & Land Co.	No Limit---	Logging-----	May build all dams necessary for the holding, driving, or controlling any timber cut from their land, not to interfere with rights of property of any person whatsoever.
1871	467	E. ½, Secs. 7, 8, and 9, T. 25 N., R. 17 E.	East Shioc-----	East Shioc Impr. Co.	No Limit---	Improvement of navigation and log driving	
1871	197	See Remarks-----	-----	Phillips and Colby Construction Co.	No Limit---	Manufacturing-----	Company granted right to do manufacturing required in construction and operation of railways, and construct dams, canals, and races that may be required in business, in this and other states.
1871	240	Between lower boundary of Sec. 24, T. 32 N., R. 19 E., and upper boundary of Sec. 10, T. 35 N., R. 17 E.	Peshtigo-----	Peshtigo River Impr. Co.	No Limit---	Log Driving-----	All acts conflicting or inconsistent with any provision of this act repealed.

## GENERAL PERMITS—Continued

Year	Ch.	Location	River	Grantee	Duration	Purpose	Remarks
1871	302	See Remarks-----	-----	Falkner Browning Constr. Co.	No Limit---	Manufacturing-----	Falkner Browning Construction Co., granted right to do manufacturing of things needed in the construction and operation of railroads. May build dams, etc., for this purpose in this and other states. Name changed to Lake Superior Construction Co., March 11, 1874.
1871	315	See Remarks-----	-----	Wisconsin & Michigan Constr. and Mfg. Co.	No Limit---	Manufacturing-----	Wisconsin & Michigan Construction Co., granted right to do manufacturing of things needed in the construction and operation of railroads. May build dams for this purpose in this and other states.
1871	399	See Remarks-----	-----	Easterly-Shumway Mfg. & Constr. Co.	No Limit---	Manufacturing-----	Easterly-Shumway Manufacturing & Construction Co., granted right to do manufacturing and mining; may build dams, flumes, etc., for this purpose in this and other states.
1871	454	See Remarks-----	-----	Central Wisconsin Mfg. Lumber & Land Co.	No Limit---	Logging-----	Central Wisconsin Manufacturing, Lumber & Land Co., granted right to build all dams necessary for the holding, driving or controlling any timber cut from their lands in the state. Not to interfere with the rights or property or any person whatever.

1874	288	From N. line of T. 38 N.	Thornapple (Branch of Chip-pewa)	Daniel Shaw, et al.	No Limit	Log driving	Amendment Chap. 375, Laws 1876, extends the time limit for completion from 2 to 3 years. Amendment Chap. 163, Laws 1881, in re tolls, etc. Amendment Chap. 95, Laws 1883, extends right granted to Daniel Shaw to Eugene and George B. Shaw.
1876	285	Portage City	Wisconsin	Solomon Leach	No Limit	To drive current wheels	Dam to be as high as average low water mark. 110 feet of unobstructed channel on each side of dam erected in middle of stream.
1877	247		Yellow	A. E. Pound	No Limit	Facilitate log driving	Act amends Chap. 12, Laws 1873, which held out inducement to any one who improved Yellow River.
1880	21	Sec. 18, T. 23 N., R. 25 E., along the N. boundary of Lot 6.	Kewaunee	Jes. Erickson, and E. C. Manger	10 years	Booms for holding logs	
1882	251	Dam and improve W. Branch from N. line, T. 28 N., R. 14 E. to T. 30 N., R. 13 E.	Wolf	Fred Davis, et al.	No Limit	Facilitate log driving	Confirms Chap. 250, Laws 1874.
1882	260		Brunette	W. Culver	No Limit	Facilitate log driving	Repeals Chap. 281, Laws 1878.
1883	271	Dams, etc., on ditch running through Sec. 27, 28, 21, 22, 15, 16, 8, 9, 5, 4, and 6, T. 20 N., R. 1 E., and through Sec. 31, 32, 29, and 30 T. 21 N., R. 1 E.		D. A. & C. A. Good-year	10 years	Assist cranberry marshes. Facilitate log driving	Subject to Sec. 1473, 1474, 1475, 1476, 1477, and 1478, Revised Statutes of 1878.

**Reports Containing Results of Stream Measurements in Upper  
Mississippi river basin**

<i>Year</i>	<i>Water Supply Paper</i>
1899 - - - - -	36
1900 - - - - -	49
1901 - - - - -	65
1902 - - - - -	83
1903 - - - - -	98
1904 - - - - -	128
1905 - - - - -	171
1906 - - - - -	207
1907-8 - - - - -	245
1909 - - - - -	265
1910 - - - - -	285
1911 - - - - -	305
1912 - - - - -	325
1913 - - - - -	365

In the tables of gaging stations the description of each station indicates under "Records available" the number of the water supply paper in which the data have been previously published. If the records published in this report differ from those published in the water supply papers, proper foot notes, giving reasons, have been appended to the tables.

The order of treatment of stations in this report is downstream. All stations from the source to the mouth of the main stem of the river are presented first and then the tributaries are taken up in regular order from source to mouth. The tributaries are treated like the main stream, all stations in each tributary basin being given before those in the one next below.

In the execution of the work many private parties have cooperated with the official organizations, either by furnishing records or by assisting in collecting data. Acknowledgment for such coöperation is made in connection with the description of each station affected.

**COLLECTION OF STREAM FLOW DATA**

During the period covered by this report 71 gaging stations have been installed or taken over for operation at various locations throughout the state, as shown on the map attached, page 222, and in the list of stations on pages 223 and 224. A complete description of each



station, together with its method of operation and the original data relating thereto, as well as that at the present being collected, will be found on page 226 and following pages.

These stations are arranged in the order shown in the list on pages 223 and 224.

### **Definition of Terms**

For the purpose of more completely understanding the tables herein referred to, the following definitions of terms are given:

The volume of water flowing in a stream—the “run-off” or “discharge”—is expressed in various terms, each of which has become associated with a certain class of work. These terms may be divided into two groups—(1) those which represent a rate of flow, as second-feet, gallons per minute, miner’s inches, and discharge in second-feet per square mile, and (2) those which represent the actual quantity of water, as run-off (depth in inches), acre-feet, and millions of cubic feet. The units used in this report are second-foot, second-feet per square mile, and run-off in inches. They may be defined as follows:

“Second-foot” is an abbreviation for “cubic foot per second” and is a unit for the rate of discharge of water flowing in a stream. A second-foot is the rate of discharge of water flowing in a channel of rectangular cross section 1 foot wide and 1 foot deep at an average velocity of 1 foot a second. It is generally used as a fundamental unit from which others are computed by the use of the factors given in the tables of convenient equivalents (p. 214).

“Second-feet per square mile” is the average number of cubic feet of water flowing per second from each square mile of area drained, on the assumption that the run-off is distributed uniformly both as regards time and area.

“Run-off (depth in inches)” is the depth to which the drainage area would be covered if all the water flowing from it in a given period were conserved and uniformly distributed on the surface. It is used for comparing run-off with rainfall, which is usually expressed in depth in inches.

The following terms used in this report are not in common use, and may be defined as follows:

“Control,” “controlling section,” and “point of control” are terms used to designate that cross section of the

stream below the gage which controls or regulates the height of the water surface at the gage. It should be noted that the control may not be the same cross section at all stages.

“Discharge relation” is an abbreviation for the term “relation of gage height to discharge.”

The “point of zero flow” for a given gaging station is that point on the gage—the gage height—to which the surface of the river would fall if there were no flow.

Convenient Equivalents

The following is a list of convenient equivalents for use in hydraulic computations:

Table for converting discharge in second-feet per square mile into run-off in depth in inches over the area.

Discharge in second- feet per square mile.	Run-off in inches.				
	1 day.	28 days.	29 days.	30 days.	31 days.
1-----	0.03719	1.041	1.079	1.116	1.153
2-----	.07438	2.083	2.157	2.231	2.306
3-----	.11157	3.124	3.236	3.347	3.459
4-----	.14876	4.165	4.314	4.463	4.612
5-----	.18595	5.207	5.393	5.578	5.764
6-----	.22314	6.248	6.471	6.694	6.917
7-----	.26033	7.289	7.550	7.810	8.070
8-----	.29752	8.331	8.628	8.926	9.223
9-----	.33471	9.372	9.707	10.041	10.376

Note.—For partial month multiply the values for one day by the number of days.

Table for converting discharge in second-feet into run-off in acre-feet.

Discharge in second- feet.	Run-off in acre-feet.				
	1 day.	28 days.	29 days.	30 days.	31 days.
1-----	1.983	55.54	57.52	59.50	61.49
2-----	3.967	111.1	115.0	119.0	123.0
3-----	5.950	166.6	172.6	178.5	184.5
4-----	7.934	222.1	230.1	238.0	246.0
5-----	9.917	277.7	287.6	297.5	307.4
6-----	11.90	333.2	345.1	357.0	368.9
7-----	13.88	388.8	402.6	416.5	430.4
8-----	15.87	444.3	460.2	476.0	491.9
9-----	17.85	499.8	517.7	535.5	553.4

Note.—For partial month multiply values for one day by the number of days.

1 second-foot equals 40 California miner's inches (law of March 23, 1901).

1 second-foot equals 38.4 Colorado miner's inches.

1 second-foot equals 40 Arizona miner's inches.

1 second-foot equals 7.48 United States gallons per second; equals 448.8 gallons per minute; equals 646,317 gallons for one day.

1 second-foot for one year covers 1 square mile 1.131 feet, or 13.572 inches deep.

1 second-foot for one year equals 31,536,000 cubic feet.

1 second-foot equals about 1 acre-inch per hour.

1 second-foot for one day equals 86,400 cubic feet.

1,000,000,000 (1 United States billion) cubic feet equals 11,570 second-feet for one day.

1,000,000,000 cubic feet equals 414 second-feet for one 28-day month.

1,000,000,000 cubic feet equals 399 second-feet for one 29-day month.

1,000,000,000 cubic feet equals 386 second-feet for one 30-day month.

1,000,000,000 cubic feet equals 373 second-feet for one 31-day month.

100 California miner's inches equals 18.7 United States gallons per second.

100 California miner's inches for one day equals 4.96 acre-feet.

100 Colorado miner's inches equals 2.60 second-feet.

100 Colorado miner's inches equals 19.5 United States gallons per second.

100 Colorado miner's inches for one day equals 5.17 acre-feet.

100 United States gallons per minute equals 0.223 second-foot.

100 United States gallons per minute for one day equals 0.442 acre-foot.

1,000,000 United States gallons per day equals 1.55 second-feet.

1,000,000 United States gallons equals 3.07 acre-feet.

1,000,000 cubic feet equals 22.95 acre-feet.

1 acre-foot equals 325,850 gallons.

1 inch deep on 1 square mile equals 2,323,200 cubic feet.

1 inch deep on 1 square mile equals 0.0737 second-foot per year.

1 foot equals 0.3048 meter.

1 mile equals 1.60935 kilometers.

1 mile equals 5,280 feet.

1 acre equals 0.4047 hectare.

1 acre equals 43,560 square feet.

1 acre equals 209 feet square, nearly.

1 square mile equals 2.59 square kilometers.

1 cubic foot equals 0.0283 cubic meter.

1 cubic foot of water weighs 62.5 pounds.

1 cubic meter per minute equals 0.5886 second-foot.

1 horsepower equals 550 foot-pounds per second.

1 horsepower equals 76.0 kilogram-meters per second.

1 horsepower equals 746 watts.

1 horsepower equals 1 second-foot falling 8.80 feet.

1  $\frac{1}{3}$  horsepower equals about 1 kilowatt.

To calculate water power quickly:  $\frac{\text{Sec.-ft.} \times \text{fall in feet}}{11} =$

net horsepower on water-wheel realizing 80 per cent of theoretical power.

### **Explanation of Data**

The data presented in this report cover the year beginning October 1, and ending September 30, and not as has been published in the water-supply papers relating to Wisconsin streams, the calendar year. At the first of January in Wisconsin a large amount of precipitation for the preceding three months is stored, either as ground water in the form of snow, or in lakes. This stored water passes off in the streams during the Spring break-up. At the end of September the only stored water available for run-off in the streams is possibly a small amount held in ground storage. Therefore, the run-off for a year, beginning with October first, is practically all derived from precipitation occurring within that year.

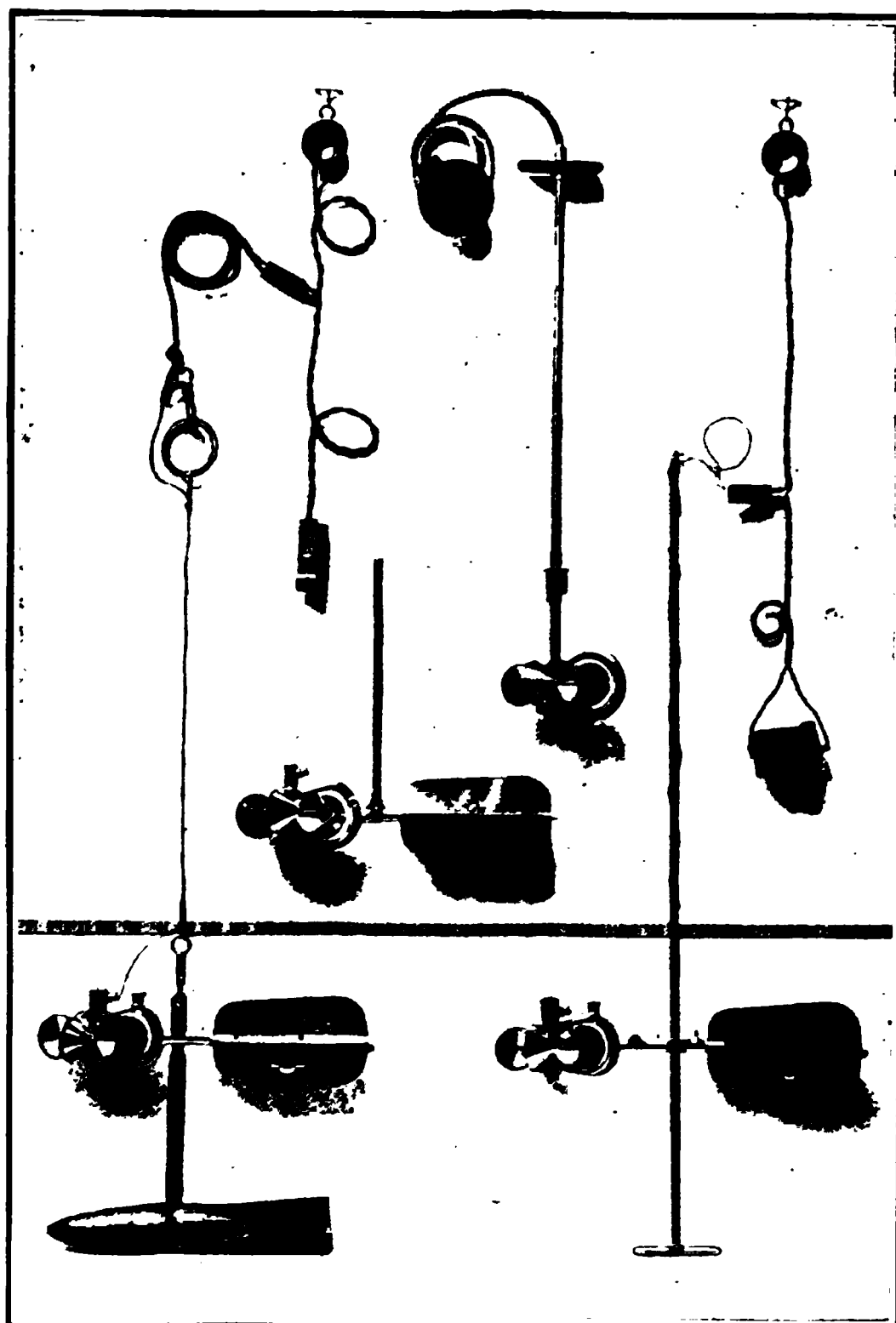
For each regular current-meter gaging station the following data, so far as available, are given: Description of the station, list of discharge measurements, table of daily gage height, table of daily discharge, table of monthly and yearly discharge and run-off. For stations located at dams or for those for which the data have been published in water-supply papers the gage height table is omitted.

In addition to statements regarding the location and installation of current-meter stations, the descriptions give information in regard to any conditions that may affect the constancy of the relation of gage height and discharge—the discharge relation—covering such points as ice, logging, shifting channels, and backwater. Statements are also made regarding the accuracy of the data.

The table of daily gage height shows the daily fluctuations of the surface of the river as found from the mean of the gage readings taken each day, usually in the morning and in the evening, though at a very few stations only one reading is made each day. At a comparatively few stations (Red Cedar at Menomonie, Chippewa at Chippewa Falls, Wisconsin at Merrill, Wisconsin at Nekoosa, Peshtigo at High Falls) automatic gages are used which give a continuous record of river stage in the form of a hydrograph, and at the station on the Bad river near Odanah a record printed at regular intervals from which the mean daily gage height can be computed.

The gage height given in the table represents the elevation of the surface of the water above the zero of the gage. All gage heights affected by the presence of ice in the streams or by backwater from obstructions are published as recorded, with suitable footnotes. The rating table is not applicable for such periods unless the proper corrections to the gage heights are known and applied. Attention is called to the fact that the zero of the gage is placed at an arbitrary datum and has no relation to zero flow or the bottom of the river. In general the zero is located somewhat below the lowest known flow, so that negative readings shall not occur.

In the tables of daily gage height the use of zeros in the hundredths place indicates the limits of accuracy to which the gage was read and to which the mean daily gage height was computed. If a gage is read to tenths or half tenths once a day or to tenths twice a day, no zeros appear in the hundredths place for any stage. If the gage is read to half tenths twice a day or to quarter tenths or hundredths, regardless of the number of readings a day, the gage heights are published to hundredths, and zeros appear in the hundredths place, below a certain limiting stage. This limiting stage is so selected that the average error in the mean daily discharge, resulting from



A—VARIOUS FORMS OF PRICE METERS

not using the mean daily gage height to hundredths above that stage, shall not be greater than 2 per cent. For automatic gages the allowable average error of the daily discharge has been taken as 1 per cent. The selection of the percentage is arbitrary, but it should be noted that the maximum error will in all cases be twice the average error. In like manner half tenths are used from the hundredths limit to another higher limit, above which only tenths are used. It is the aim to have the gage height observations at each gaging station recorded to the degree of refinement required by the above method of use, but in practice it is found necessary, in order to avoid confusion in the gage observer's record, to have the observations for all stages recorded to the degree of refinement required for low stages, which usually necessitates readings to hundredths of a foot.

The discharge measurements and gage heights are the base data from which rating tables, daily discharge tables and monthly discharge tables are computed.

The rating table gives, either directly or by interpolation, the discharge in second-feet corresponding to every stage of the river recorded during the period for which it is applicable. It is not published in this report, but can be determined from the tables of daily gage heights and daily discharge by plotting gage heights in feet as ordinates and discharge in second-feet as abscissas.

The table of daily discharge determined from the rating table gives the discharge in second-feet corresponding to the mean of the gage readings observed each day.

In the table of monthly discharge the column headed "Maximum" gives the mean flow, as determined from the rating table, for the day when the mean gage heights was highest. As the gage height is the mean for the day, it does not indicate correctly the stage when the surface water was at crest height and the corresponding discharge was consequently larger than given in the maximum column. Likewise in the column at "Minimum" the quantity given is the mean flow for the day when the mean gage height was lowest. The column headed "Mean" is the average flow in cubic feet for each second during the month. On this the computations for the remaining columns, which are defined on page 213, are based.

The base data presented in this report, unless otherwise stated in description of station, have been collected by the methods commonly used at current-meter gaging stations and described in standard textbooks.

### **Accuracy of Field Data and Computed Results**

The accuracy of stream-flow data depends (1) on the permanence of the relation between discharge and stage, and (2) on the accuracy of observation of stage, measurements of flow, and interpretation of the data.

In order to give engineers and others information regarding the probable accuracy of the computed results, foot notes are added to the daily discharge tables, stating the probable accuracy of the rating tables used, and an accuracy column is inserted in the monthly discharge table. For the rating tables, "well-defined" indicates, in general, that the rating is probably accurate within 5 per cent; "fairly well defined," within 10 per cent; "poorly defined" or "approximate," within 15 to 25 per cent. These notes are very general and are based on the plotting of the individual measurements with reference to the mean rating curve.

The accuracy column in the monthly discharge table does not apply to the maximum or minimum nor to any individual day, but to the monthly mean. It is based on the accuracy of the rating curve, the probable reliability of the observer, the number of gage readings per day, the range of the fluctuation in stage, and knowledge of local conditions. In this column, "A" indicates that the estimate of mean monthly flow is probably accurate within 5 per cent; "B," within 10 per cent; "C," within 15 per cent; "D," within 25 per cent. Special conditions are covered by footnotes.

Even though the monthly means for any station may represent with a high degree of accuracy the quantity of water flowing past the gage, the figures showing discharge per square mile and depth of run-off in inches may be subject to gross errors, which result from including in the measured drainage area large noncontributing districts or omitting estimates of water diverted for irrigation or other use. On this account the computations of "second-foot per square mile" and "run-off (depth in inches)" have not been made for stations draining areas for which



it is believed that the computations would be uncertain and misleading because of the presence of large noncontributing districts in the measured drainage area, of omitting estimates of water diverted for irrigation or other use, or of artificial control or unusual natural control of the flow of the river above the gaging station. All values of "second-feet per square mile" and "run-off (depth in inches)" previously published by the U. S. Geological Survey and all such values in this report should be used with extreme caution, because of possible inherent sources of error not known.

The base data collected each year are published to afford any engineer the means of examining and adjusting to his own needs the results of the computations. The table of monthly discharge is so arranged as to give only a general idea of the flow at the station and should not be used for other than preliminary estimates. The determinations of daily discharge allow more detailed studies of the variation in flow by which the period of deficiency may be determined.

It should be borne in mind that observations in each succeeding year may be expected to throw new light on data already collected and published, and the engineer who makes use of the figures presented in this report should verify all ratings and make such adjustments for earlier years as may seem necessary.

*Railroad Commission Report*

STATE OF WISCONSIN

SHOWING

DRAINAGE BASINS

AND

GAGING STATIONS

Scale  $\frac{1}{2}$  inch = 10 Miles

DECEMBER 1914

2

1

I L L I N O I S

Name and location of gaging stations, numbered to correspond with map on preceeding page:

*Mississippi river basin.*

1. St. Croix river at Swiss, Wis.
2. St. Croix river near St. Croix Falls, Wis.
3. Namakagon river at Trego, Wis.
4. Yellow river at Webster, Wis.
5. Apple river near Somerset, Wis.
6. Chippewa river at Bishop's Bridge, near Winter, Wis.
7. Chippewa river near Bruce, Wis.
8. Chippewa river at Chippewa Falls, Wis.
9. Chippewa river near Eau Claire, Wis.
10. Chippewa river, West Fork of, at Lessard's, near Winter, Wis.
11. Flambeau river near Butternut, Wis.
12. Flambeau river near Ladysmith, Wis.
13. Flambeau river at Ladysmith, Wis.
14. Eau Claire river near Augusta, Wis.
15. Eau Claire river at Eau Claire, Wis.
16. Red Cedar river near Colfax, Wis.
17. Red Cedar river at Cedar Falls, Wis.
18. Red Cedar river at Menomonie, Wis.
19. Trempealeau river at Dodge, Wis.
20. Black river at Neillsville, Wis.
21. Black river at Melrose, Wis.
22. La Crosse river near West Salem, Wis.

*Wisconsin river basin.*

23. Wisconsin river near Rhinelander, Wis.
24. Wisconsin river at Merrill, Wis.
25. Wisconsin river at Nekoosa, Wis.
26. Wisconsin river near Necedah, Wis.
27. Wisconsin river near Muscoda, Wis.
28. Tomahawk river near Bradley, Wis.
29. Prairie river near Merrill, Wis.
30. Little Rib river near Wausau, Wis.
31. Eau Claire river at Kelly, Wis.
32. Big Eau Pleine river near Stratford, Wis.
33. Plover river near Stevens Point, Wis.
34. Baraboo river near Baraboo, Wis.
35. Kickapoo river at Gays Mills, Wis.

*Rock river basin.*

36. Rock river at Watertown, Wis.
37. Rock river at Afton, Wis.
38. Catfish or Yahara river and Lake Mendota at Madison, Wis.
39. Pecatonica river at Dill, Wis.
40. Sugar river at Brodhead, Wis.

*Lake Superior basin.*

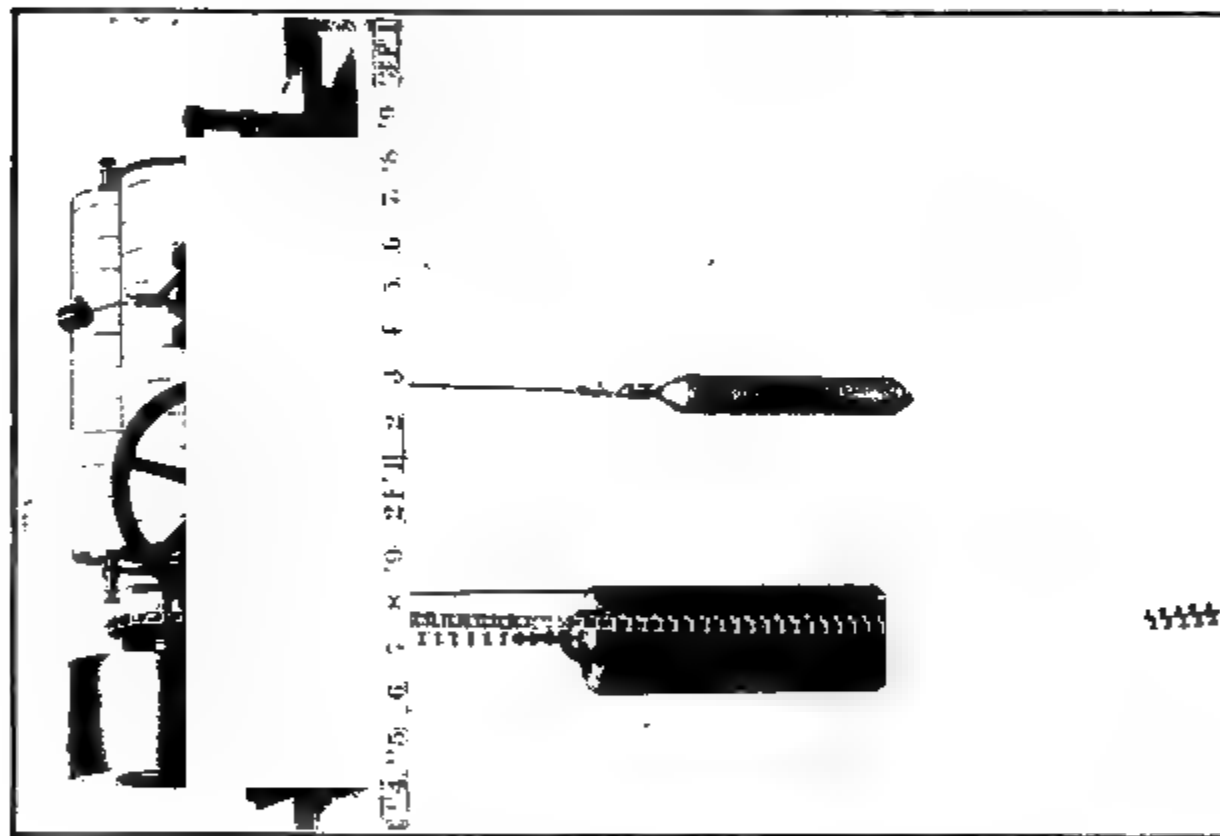
41. Aminicon river near Aminicon Falls, Wis.
42. Brule river near Brule, Wis.
43. Bad river near Odanah, Wis.

*Lake Michigan basin.*

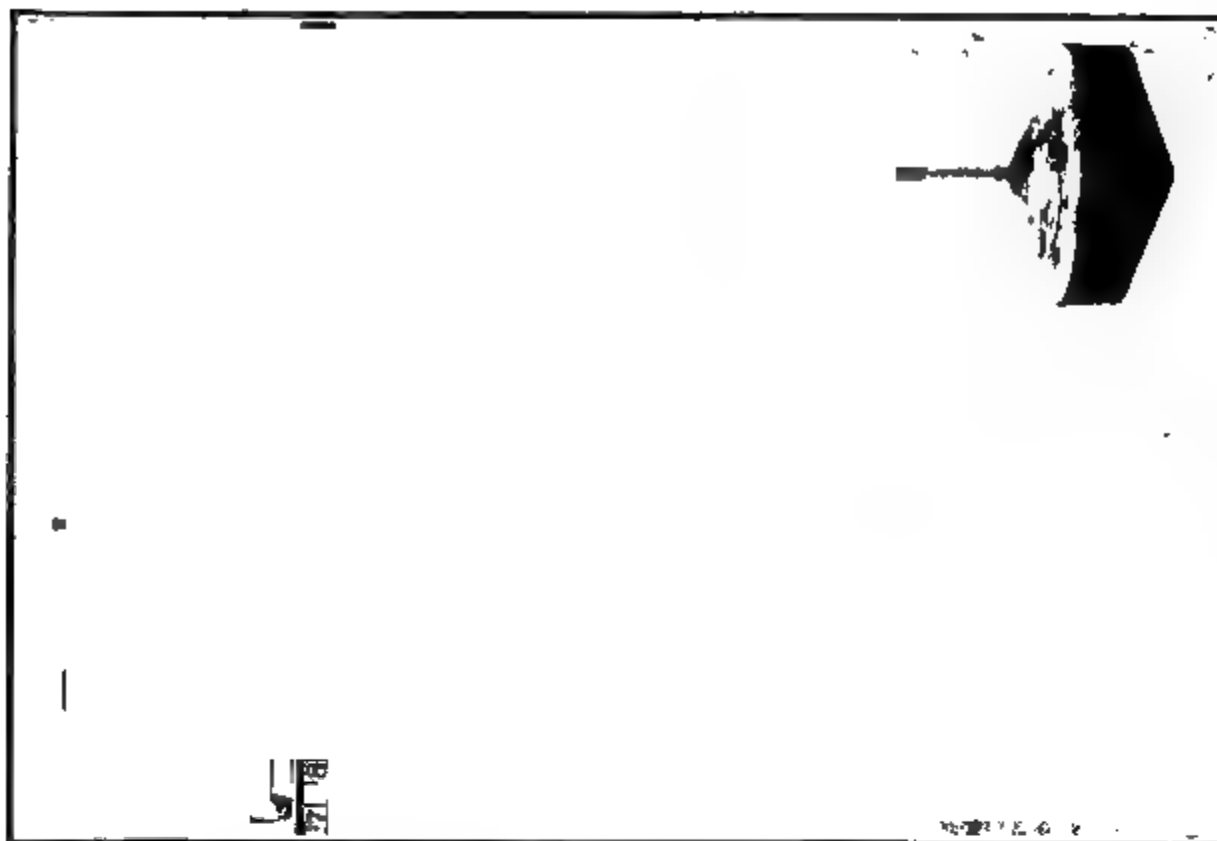
44. Menominee river near Iron Mountain, Mich.
45. Menominee river at Lower Quinesec Falls, Wis.
46. Menominee river at Koss, Mich.
47. Menominee river below Koss, Mich.
48. Brule river near Florence, Wis.
49. Pine river near Florence, Wis.
50. Pike river at Amberg, Wis.
51. Peshtigo river at High Falls, Wis.
52. Peshtigo river near Crivitz, Wis.
53. Peshtigo river at Crivitz, Wis.
54. Oconto river near Gillett, Wis.
55. Oconto river at Stiles, Wis.
56. Fox river at Omro, Wis.
57. Fox river at Oshkosh, Wis.
58. Fox River at Rapide Croche Dam, near Wrightstown, Wis.
59. Fox river at Wrightstown, Wis.
60. Wolf river at Keshena, Wis.
61. Wolf river at White House Bridge, near Shawano, Wis.
62. Wolf river at Darrows Bridge, near Shawano, Wis.
63. Wolf river at New London, Wis.
64. Wolf river at Northport, Wis.
65. Wolf river at Winneconne, Wis.
66. Fond du Lac river, West Branch, at Fond du Lac, Wis.
67. Fond du Lac river, East Branch, at Fond du Lac, Wis.
68. Milwaukee river near Milwaukee, Wis.
- \* 69. Wolf river, West Branch, at Neopit, Wis.
- \* 70. Little Wolf river at Royalton, Wis.
- \* 71. Little Wolf river near Northport, Wis.

\* Not shown on map page 222.

# RECORDING GAGES



B—GURLEY



C—FRIEZ

## STATION RECORDS

### MISSISSIPPI RIVER BASIN

#### ST. CROIX RIVER AT SWISS, WIS.

**Location.**—At highway bridge near post office at Swiss, Wis., 10 miles north-east of Danbury, Minn., on Minneapolis, St. Paul & Sault Ste. Marie Railway, about 2 miles above point where St. Croix river becomes the boundary line between Wisconsin and Minnesota. Totogatic river enters from left about  $3\frac{1}{2}$  miles above station.

**Records Available.**—March 20 to September 30, 1914.

**Drainage Area.**—1550 square miles.

**Gage.**—Cast iron staff gage bolted to iron girder at left end of bridge; read morning and evening to quarter-tenths; limits of use: hundreds below 1.0 foot, half-tenths between 1.0 and 2.0 feet, and tenths above 2.0 feet.

**Control.**—Gravel, smooth; grass grows in channel to some extent during summer months and causes a small amount of backwater at the gage.

**Discharge Measurements.**—Made from upstream side of bridge.

**Winter Flow.**—Discharge relation affected by ice which forms at the gage; estimates on measurements made through the ice.

**Regulation.**—None.

**Accuracy.**—Records excellent except for periods during which grass may grow in the channel; open-water rating curve corrected for backwater from grass June 19 to September 30; maximum correction about 16 per cent.

Discharge measurements of St. Croix River at Swiss, Wis., during the year ending Sept. 30, 1914.

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
Mar. 13(a)	G. H. Canfield		754
Mar. 20(a)	do	2.52	875
April 8(b)	do	1.16	1,120
April 23	M. F. Rather	2.80	2,650
April 28	J. B. Stewart	3.25	3,070
April 29	do	3.60	3,450
Aug. 19 (c)	do	1.55	1,250

- (a) Complete ice cover above and below gage.
- (b) River clear of ice in vicinity of gage; frozen over a few miles downstream.
- (c) Small amount of grass and moss growing on bed of river.

Daily gage height, in feet, of St. Croix River at Swiss, Wis., for the year ending Sept. 30, 1914.

[R. Goldschmielt, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1							2.7	3.4	1.65	3.6	1.45	1.6
2							2.8	3.2	1.6	3.6	1.4	1.75
3							2.8	3.2	1.55	3.5	1.35	1.8
4							1.35	3.3	1.55	3.6	1.3	1.8
5							1.3	3.2	1.6	3.3	1.3	1.7
6							1.2	3.0	1.6	3.1	1.3	1.65
7							1.2	3.0	1.6	2.8	1.3	1.5
8							1.1	2.7	1.6	2.6	1.3	1.5
9							1.1	2.8	1.6	2.3	1.3	1.45
10							1.1	2.4	1.6	2.1	1.5	1.45
11							1.1	2.4	1.55	1.9	1.7	1.6
12							1.1	2.3	1.5	2.2	1.75	1.6
13							1.1	2.2	1.4	2.8	1.75	1.6
14							1.2	2.2	1.4	2.9	1.7	1.75
15							1.25	2.0	1.4	2.8	1.65	1.9
16							1.4	1.9	1.35	2.7	1.6	1.9
17							1.5	1.8	1.35	2.6	1.55	1.9
18							1.75	1.7	1.3	2.4	1.6	1.85
19							2.8	1.7	1.3	2.2	1.55	1.95
20						2.5	2.9	1.6	1.35	2.1	1.5	1.9
21						2.6	3.0	1.95	1.35	1.95	1.5	1.9
22						2.5	3.0	2.1	1.6	1.95	1.45	1.95
23						2.4	2.8	2.1	1.95	2.0	1.7	1.9
24						2.4	4.0	2.0	2.2	1.95	1.75	1.9
25						2.6	3.3	1.95	2.2	1.8	1.7	1.8
26						2.6	3.2	2.0	2.3	1.8	1.6	1.7
27						2.6	3.2	1.9	3.1	1.7	1.6	1.6
28						2.8	3.3	1.85	4.1	1.65	1.5	1.55
29						2.8	3.6	1.9	4.0	1.6	1.45	1.45
30						2.8	3.5	1.9	3.7	1.5	1.4	1.4
31						2.7		1.8		1.5	1.4	

NOTE.—Discharge relation affected by ice about Mar. 13 to Apr. 3.

Daily discharge, in second-feet, of St. Croix River at Swiss, Wis.,  
for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1								3,250	1,560	3,450	1,380	1,510
2								3,050	1,510	3,450	1,330	1,640
3								3,050	1,460	3,350	1,290	1,690
4							1,290	3,150	1,460	3,450	1,240	1,690
5							1,240	3,050	1,510	3,150	1,240	1,600
6							1,160	2,850	1,510	2,950	1,240	1,560
7							1,160	2,850	1,510	2,650	1,240	1,420
8							1,080	2,550	1,510	2,450	1,240	1,420
9							1,080	2,650	1,510	2,160	1,240	1,380
10							1,080	2,250	1,510	1,960	1,420	1,380
11							1,080	2,250	1,460	1,780	1,600	1,510
12							1,080	2,160	1,420	2,060	1,640	1,510
13							1,080	2,060	1,330	2,650	1,649	1,510
14							1,160	2,060	1,330	2,750	1,600	1,640
15							1,200	1,870	1,330	2,650	1,560	1,780
16							1,330	1,780	1,290	2,550	1,510	1,780
17							1,420	1,690	1,290	2,450	1,460	1,780
18							1,640	1,600	1,240	2,250	1,510	1,740
19							2,650	1,600	1,240	2,060	1,460	1,820
20							2,750	1,510	1,290	1,960	1,420	1,780
21							2,850	1,820	1,290	1,820	1,420	1,780
22							2,850	1,960	1,510	1,820	1,380	1,820
23							2,650	1,960	1,820	1,870	1,600	1,780
24							3,870	1,870	2,060	1,820	1,640	1,780
25							3,150	1,820	2,060	1,690	1,600	1,690
26							3,050	1,870	2,160	1,690	1,510	1,600
27							3,050	1,780	2,950	1,600	1,510	1,510
28							3,150	1,740	3,980	1,560	1,420	1,460
29							3,450	1,780	3,870	1,510	1,380	1,380
30							3,350	1,780	3,560	1,420	1,330	1,330
31								1,690		1,420	1,330	

NOTE.—Daily discharge computed from a rating curve well defined between 1,080 and 3,870 second-feet (gage heights 1.1 and 4.0 feet). Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, as follows: Mar. 13 to 20, 810 second-feet; Mar. 21 to 31, 940 second-feet; and Apr. 1 to 3 1,030 second-feet.

Monthly discharge of St. Croix River at Swiss, Wis., for  
the year ending Sept. 30, 1914.

[Drainage area, 1,550 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
March (13-31)			885	0.571	0.40	D
April	3,870		1,930	1.25	1.40	A
May	3,250	1,510	2,170	1.40	1.61	A
June	3,980	1,240	1,780	1.15	1.28	B
July	3,450	1,420	2,270	1.46	1.68	B
August	1,640	1,240	1,430	.923	1.06	B
September	1,820	1,330	1,610	1.04	1.16	B



**ST. CROIX RIVER NEAR ST. CROIX FALLS, WIS.**

**Location.**—At the power plant of the Minneapolis General Electric Co., on the Wisconsin side of St. Croix River near St. Croix Falls, Wis., about 50 miles above the confluence of St. Croix and Mississippi Rivers near Hastings, Minn. Apple River, draining an area wholly in Wisconsin, enters from the left about 20 miles below the station; Snake River, draining an area in Minnesota, enters from the right, about 35 miles above the station.

**Records available.**—January 10, 1902, to June 30, 1905; January 1, 1910, to September 30, 1914. Data for 1903 published in Water-Supply Paper No. 98, pp. 176-177, under St. Croix near Taylors Falls, Minn.; data for 1912 published in Water-Supply Paper No. 325; daily and monthly discharge January 10, 1902, to June 30, 1905, and January 1, 1910, to October 31, 1912, and monthly discharge for July, 1905, to December, 1909, for nine months, published also in report on Water Resources of Minnesota by the State Drainage Commission.

**Drainage area.**—5,930 square miles.

**Discharge.**—Determinations of discharge based on kilowatt output of dynamo and excitors plus flow over dam and spillway, considered as a weir.

**Accuracy.**—Records have not been checked nor have discharge measurements been made by engineers of the U. S. Geol. Survey; probably reliable.

**Cooperation.**—Records furnished by the Minneapolis General Electric Company.

Daily discharge, in second-feet, of St. Croix River near St. Croix Falls, Wis.,  
for the years ending Sept. 30, 1902-1905; 1910-1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept
1901-02												
1					1,820	2,420	2,910	3,930	5,150	6,690	2,270	1,720
2					1,880	2,440	2,840	4,090	5,010	4,490	1,740	1,730
3					1,930	2,460	300	3,910	4,480	4,830	1,790	1,680
4					1,700	2,300	400	3,920	9,800	4,700	1,820	1,840
5					1,760	2,370	2,750	3,940	11,900	7,350	1,870	1,700
6					1,760	2,420	2,520	4,900	11,000	5,200	2,040	2,560
7					1,750	2,270	2,280	3,980	10,600	12,100	2,260	2,550
8					1,770	2,460	2,280	4,880	9,900	11,700	1,980	2,220
9					1,760	2,660	2,190	4,560	9,260	11,100	1,660	4,110
10				1,890	1,760	2,860	2,110	4,590	10,500	12,900	1,990	3,500
11				1,910	1,750	3,060	1,990	4,450	6,810	8,980	3,970	1,720
12				1,860	1,750	3,260	1,870	5,850	7,600	7,980	1,680	1,500
13				1,850	1,820	3,450	1,470	6,150	8,290	6,700	1,120	1,640
14				1,680	1,870	3,650	2,060	5,250	4,780	6,060	1,020	1,550
15				1,760	1,990	3,850	2,020	4,780	6,350	5,780	1,570	1,360
16				1,780	1,990	4,050	2,170	4,880	4,220	4,860	1,590	1,360
17				1,800	1,990	4,250	2,070	4,820	3,420	4,380	1,560	1,540
18				1,880	1,990	4,450	5,190	4,940	3,580	3,800	1,500	1,480
19				1,860	1,990	4,650	1,510	5,060	6,350	5,210	1,510	1,120
20				1,920	1,990	5,000	1,000	5,300	3,780	2,850	1,500	510
21				1,880	1,990	4,650	500	5,870	960	3,400	1,480	2,800
22				1,930	1,990	4,600	5,540	7,080	3,300	3,530	1,480	2,070
23				1,860	2,030	4,040	540	9,600	3,400	3,600	1,580	2,540
24				1,950	2,060	3,470	510	7,250	6,000	3,180	1,500	2,360
25				1,980	2,110	3,110	1,050	6,420	3,560	2,560	1,400	1,060
26				1,980	2,180	3,120	2,760	5,580	4,140	7,250	3,850	1,140
27				1,950	2,260	3,120	3,020	5,760	4,380	850	1,860	1,120
28				1,930	2,480	3,120	3,290	5,090	4,200	750	1,740	3,050
29				1,920		3,120	3,480	6,070	2,550	2,520	1,460	2,210
30				1,900		3,040	3,750	4,930	4,690	2,520	6,000	2,310
31				1,890		2,950		5,290		2,610	1,800	
1902-03												
1	2,330	5,190	2,480	2,060	1,950	1,940	6,770	8,920	7,680	251	4,570	1,060
2	2,390	3,950	2,560	1,940	1,940	1,920	9,800	9,560	10,400	3,030	4,800	2,000
3	2,400	3,290	2,550	1,940	1,760	1,920	10,800	11,400	9,490	4,440	5,050	2,970
4	1,680	4,740	2,530	1,910	1,830	1,960	12,200	13,300	8,560	6,000	6,170	3,920
5	2,150	3,910	2,510	1,880	1,900	1,960	11,300	15,200	7,910	7,220	6,710	2,970
6	2,440	4,180	2,490	1,930	2,020	1,880	10,400	15,600	7,340	8,640	1,600	2,000
7	2,390	4,030	2,470	1,940	1,930	1,990	8,850	15,200	6,800	8,760	7,900	960
8	2,290	4,740	2,450	2,010	1,920	2,050	11,600	13,800	6,270	8,880	7,600	5,500
9	2,050	4,500	2,440	1,930	1,900	2,110	18,000	12,200	6,010	10,200	7,280	11,600
10	930	3,290	2,420	1,850	1,940	2,350	16,400	10,700	5,760	10,900	6,970	15,100
11	2,950	2,960	2,400	1,880	1,950	2,590	18,300	9,240	5,160	11,600	7,170	15,600
12	1,950	3,200	2,390	1,900	1,880	2,830	20,200	16,200	6,190	10,500	4,830	16,700
13	2,040	4,300	2,370	1,930	1,980	3,070	18,600	15,900	7,320	9,240	5,510	
14	2,000	4,530	2,260	1,950	1,930	3,310	17,000	15,600	6,910	7,250	5,340	
15	1,920	4,900	2,150	1,980	1,870	3,550	15,400	15,300	6,500	7,200	5,360	
16	800	4,600	2,080	1,870	1,840	3,790	14,100	15,000	5,280	6,920	4,800	
17	845	4,700	2,020	1,770	1,870	4,030	12,800	14,700	5,130	6,790	4,230	
18	3,600	4,580	2,110	1,820	1,970	4,530	12,600	14,400	5,760	6,040	4,150	
19	1,940	5,160	2,180	1,870	1,850	6,480	12,500	14,100	4,300	5,590	3,460	
20	1,920	3,690	2,080	1,780	1,700	9,890	10,300	13,800	3,380	5,150	3,680	
21	2,040	4,660	2,040	1,980	1,740	11,400	9,400	13,800	2,460	4,540	4,360	18,400
22	1,980	4,160	2,000	1,730	1,830	11,500	8,600	10,600	1,540	4,380	3,980	15,100
23	2,040	4,250	2,090	1,820	1,910	11,500	7,700	11,200	2,700	3,990	3,600	14,300
24	850	4,060	2,090	1,800	1,950	10,700	6,800	11,700	2,710	1,830	3,220	10,800
25	1,100	3,720	2,090	1,860	1,940	9,660	9,740	12,100	2,640	5,590	3,280	9,050
26	2,300	3,560	2,080	1,930	1,820	10,100	9,260	9,580	2,540	4,670	3,300	9,910
27	2,310	3,680	2,080	1,990	1,880	9,530	8,790	12,000	2,480	3,750	3,180	9,050
28	2,660	3,060	2,080	2,050	1,970	8,720	10,500	12,600	2,420	4,770	3,020	8,140
29	2,890	3,050	2,080	1,980		8,590	10,100	11,400	2,360	4,730	5,040	7,570
30	1,880	2,050	2,060	1,840		8,440	8,920	10,600	907	4,480	4,730	6,960
31	2,840		2,040	1,970		8,160		9,160		4,570	4,410	

Daily discharge, in second-feet, of St. Croix River near St. Croix Falls, Wis., for the years ending Sept. 30, 1902-1905; 1910-1914.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1903-4												
1	7,380	5,600	3,090	2,390	2,110	2,580	5,560	8,400	6,340	6,170	840	3,800
2	7,480	5,220	2,850	2,390	2,090	2,570	6,130	7,590	5,520	5,850	1,080	4,530
3	8,930	5,250	3,060	2,640	2,060	2,520	7,000	7,540	6,050	3,630	1,480	4,610
4	12,100	3,490	2,940	2,890	2,040	2,390	8,080	7,480	7,950	1,410	3,460	4,750
5	17,400	850	3,000	3,140	2,080	2,290	9,870	7,380	12,600	3,010	2,250	4,900
6	18,400	5,610	2,950	3,400	2,070	2,390	12,400	8,290	17,200	4,610	1,990	4,870
7		7,000	2,900	3,660	2,040	2,490	15,900	8,790	17,900	4,780	2,040	5,040
8		5,700	2,800	3,140	2,020	2,600	16,900	10,300	17,500	4,610	2,100	4,690
9		4,970	2,860	2,810	2,160	2,590	18,300	11,800	15,600	4,970	2,210	4,600
10		5,200	2,870	2,820	2,110	2,560	16,600	13,400	12,900	2,960	2,100	4,030
11		4,930	2,680	2,840	2,000	2,590	15,100	11,300	12,600	950	2,000	3,460
12	23,600	4,790	2,610	2,600	2,160	2,640	14,000	9,490	12,100	3,480	2,300	2,820
13	18,400	4,810	2,540	2,340	2,000	2,650	10,600	8,550	11,500	3,860	2,340	2,380
14	15,800	4,850	2,470	2,660	2,140	2,660	7,910	8,980	11,330	3,750	1,750	1,940
15	15,600	4,200	2,400	2,680	2,280	2,700	12,600	8,650	7,880	3,890	1,150	2,150
16	13,600	4,560	2,350	2,630	2,430	2,740	10,000	8,310	8,540	3,990	950	3,480
17	12,800	6,200	2,500	2,410	2,430	2,690	9,460	7,280	7,630	2,530	1,430	3,190
18	11,600	7,600	2,530	2,200	2,460	2,700	8,920	7,820	8,140	1,080	3,370	3,160
19	10,300	2,440	2,440	2,480	2,410	2,750	8,380	6,860	8,710	1,140	1,920	3,140
20	9,560	2,680	2,560	2,460	2,450	2,800	7,850	5,250	9,280	3,760	2,240	2,890
21	9,370	3,130	2,690	2,440	2,370	2,850	7,490	6,390	6,730	3,420	3,760	2,750
22	8,610	3,300	2,750	2,630	2,290	2,900	7,530	6,900	5,630	3,170	5,290	2,380
23	7,370	3,460	2,820	2,620	2,330	2,940	11,300	7,500	5,820	3,270	4,390	2,490
24	7,600	3,480	2,650	2,570	2,230	2,990	10,800	8,000	4,960	2,240	2,520	2,700
25	8,000	3,360	2,850	2,520	2,280	3,040	10,400	7,790	5,190	1,210	2,970	3,240
26	8,410	3,170	3,050	2,330	2,410	3,090	11,200	8,760	3,380	1,050	2,510	3,790
27	6,680	3,120	3,240	2,390	2,460	3,370	11,200	8,030	1,570	2,580	2,480	3,330
28	6,180	3,090	3,440	2,280	2,480	3,660	10,800	7,390	4,850	2,780	2,230	3,500
29	5,930	3,050	2,630	2,270	2,520	3,300	10,800	6,700	5,330	2,720	1,960	3,580
30	5,750	3,130	2,420	2,250		3,770	9,940	6,060	5,320	2,810	2,260	3,880
31	5,610		2,410	2,180		4,510		6,440		2,800	3,000	
1904-5												
1	3,950	8,780	1,690	2,350	2,100	2,640	5,240	5,130	4,380			
2	3,840	8,040	1,760	2,310	2,120	2,780	5,760	3,710	3,620			
3	3,720	7,590	2,210	2,370	2,120	2,920	6,270	5,110	3,150			
4	3,360	6,780	2,400	1,810	2,000	3,060	8,350	5,960	2,400			
5	11,300	3,280	2,620	1,680	1,970	3,060	10,300	7,960	1,610			
6	1,240	4,230	2,740	2,220	1,950	3,670	12,200	9,350	10,000			
7	2,800	5,230	2,890	2,430	1,960	3,530	11,400	10,500	12,400			
8	4,690	5,440	2,970	2,450	2,020	3,390	10,700	10,600	14,600			
9	3,400	5,700	2,770	2,480	2,030	3,240	8,850	10,400	15,100			
10	2,120	4,900	2,820	2,370	2,000	3,100	7,000	9,470	14,800			
11	10,400	5,330	2,820	2,910	1,980	3,120	6,760	9,970	14,200			
12	15,000	5,600	2,830	2,990	1,980	2,980	5,840	11,700	13,700			
13	14,300	5,640	2,500	3,030	1,980	2,840	5,830	13,500	10,800			
14	13,800	5,470	2,420	3,100	2,030	2,680	5,370	14,200	11,600			
15	12,600	5,250	2,220	3,070	2,000	3,020	5,030	15,000	12,300			
16	11,400	4,970	2,380	3,040	2,030	2,800	4,500	14,600	9,270			
17	10,100	4,770	2,330	3,010	2,060	2,630	3,940	12,600	10,900			
18	10,800	4,570	2,320	2,960	2,060	2,640	3,680	12,200	10,200			
19	10,300	4,480	2,300	2,980	2,070	2,680	3,580	11,800	9,530			
20	12,700	4,340	2,380	2,700	2,090	2,730	3,560	10,600	10,200			
21	15,700	4,190	2,160	2,390	2,160	2,860	4,440	10,200	8,860			
22	18,700	4,020	2,440	2,370	2,160	2,900	3,440	9,810	7,520			
23	18,000	4,000	2,340	2,360	2,120	3,150	3,140	10,100	9,060			
24	17,300	4,120	2,390	2,300	2,090	3,690	2,840	8,890	8,410			
25	16,200	3,720	2,420	2,330	2,100	4,330	3,070	7,760	8,660			
26	15,500	3,710	2,450	2,350	2,230	4,600	580	5,790	8,900			
27	12,700	3,300	2,460	2,380	2,370	4,890	3,990	6,670	10,900			
28	12,900	2,890	2,440	2,370	2,510	4,660	4,310	7,460	11,800			
29	10,600	2,800	2,420	2,240		4,990	4,230	9,180	10,000			
30	10,400	2,250	2,400	2,100		5,240	4,670	4,160	9,860			
31	10,200		2,380	2,100		5,030		4,840				

*Daily discharge, in second-feet, of St. Croix River near St. Croix Falls, Wis., for the years ending Sept. 30, 1902-1905; 1910-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1909-10</b>												
1				3,220	3,040	3,820	5,590	2,650	3,170	1,680	1,450	1,700
2				3,470	2,920	4,040	5,460	2,410	2,160	1,110	1,450	1,700
3				3,200	2,790	3,820	5,170	3,880	2,040	610	1,400	1,820
4				3,160	3,560	4,260	5,590	3,480	1,920	1,120	1,400	606
5				2,500	3,350	3,030	5,160	2,660	2,610	1,640	1,500	1,170
6				2,710	3,720	2,950	5,120	2,890	2,580	1,420	1,260	1,700
7				2,950	2,820	2,880	4,740	2,660	1,900	1,560	452	1,670
8				3,220	2,800	2,940	4,780	2,340	1,930	1,680	1,350	1,770
9				3,500	3,510	2,960	2,160	2,040	2,350	1,230	1,700	1,640
10				2,900	2,800	3,020	2,650	5,460	2,440	500	1,500	1,590
11				2,860	2,800	3,210	4,100	1,870	1,930	1,800	1,470	680
12				2,800	2,960	4,560	3,090	1,410	1,760	1,360	1,400	1,740
13				3,060	3,720	5,120	3,130	4,660	1,930	1,800	1,290	1,730
14				2,880	2,850	5,800	3,160	5,000	1,940	1,790	393	1,410
15				2,940	2,650	6,840	3,040	1,950	1,900	1,670	1,400	1,230
16				3,720	2,810	7,240	3,160	1,840	1,940	1,270	1,550	1,380
17				3,020	2,620	8,020	3,720	1,510	2,230	75	1,360	1,520
18				2,960	2,900	9,390	2,950	1,180	1,400	1,840	1,410	666
19				2,560	3,210	8,960	4,280	2,040	550	1,800	1,400	1,320
20				2,920	3,520	8,520	3,110	3,320	1,820	1,770	1,320	1,450
21				2,770	2,460	9,870	3,080	2,060	1,850	1,820	452	1,460
22				2,850	2,540	8,010	4,620	790	1,740	1,720	1,480	1,450
23				3,720	2,880	8,200	3,920	2,330	1,620	1,300	1,640	1,220
24				3,080	2,720	8,240	3,680	2,630	1,670	343	1,630	1,100
25				3,030	2,510	8,230	4,960	3,030	1,110	1,410	1,600	759
26				2,820	3,520	7,910	5,160	3,550	555	1,480	1,570	1,410
27				3,100	4,150	7,680	4,310	4,630	1,730	1,490	1,560	1,640
28				2,600	4,040	6,700	1,960	4,460	2,210	1,490	521	1,660
29				3,050		6,020	3,280	2,950	1,450	1,490	1,530	1,670
30				3,950		6,270	2,890	2,320	1,570	1,500	1,540	1,610
31				2,940		6,530		1,490		358	1,690	
<b>1910-11</b>												
1	1,400	1,380	1,950	653	1,580	1,510	2,820	2,580	4,460	2,160	2,030	1,500
2	728	1,390	1,440	935	1,430	1,540	3,160	2,660	3,630	1,110	1,870	1,470
3	1,570	1,400	1,050	1,690	1,370	1,560	2,740	2,280	3,020	1,570	2,010	1,010
4	1,580	1,460	648	1,410	1,620	1,570	1,850	2,180	2,330	1,190	2,030	1,550
5	1,580	1,670	1,190	1,330	1,070	819	2,060	2,180	3,360	1,970	1,820	1,720
6	1,580	725	1,240	807	1,560	1,460	2,470	2,440	5,240	1,840	1,010	1,580
7	1,610	1,690	1,400	1,480	1,580	1,520	2,510	962	4,770	1,620	1,890	1,580
8	1,950	1,540	1,720	719	1,590	1,560	2,490	2,100	5,210	1,620	2,130	1,700
9	602	1,550	1,740	1,340	1,490	1,530	2,590	2,220	5,030	1,100	2,120	1,710
10	1,640	1,500	1,740	1,300	1,460	1,480	2,620	2,160	3,960	2,130	2,080	1,020
11	1,770	1,560	629	1,290	1,570	1,570	2,120	2,200	5,870	2,190	2,050	1,730
12	1,780	1,510	1,420	1,120	938	1,800	2,130	2,140	3,970	2,170	2,050	1,640
13	1,770	671	1,340	1,130	1,600	2,240	2,840	2,230	3,010	2,110	1,160	1,800
14	1,740	1,290	1,140	1,050	1,510	2,430	4,310	4,260	3,790	2,120	1,960	1,770
15	1,730	1,450	1,310	557	1,360	2,640	4,370	4,620	3,140	2,100	2,100	2,710
16	629	1,500	1,470	1,200	1,340	2,170	4,350	3,760	2,960	928	1,990	3,060
17	1,640	1,210	1,540	1,110	1,270	2,390	4,370	3,330	2,700	3,470	2,150	3,210
18	1,510	997	638	1,110	1,590	2,760	3,890	4,250	1,880	2,100	2,100	2,760
19	1,700	1,350	1,270	1,080	808	2,750	3,570	6,000	2,980	1,730	2,070	4,420
20	1,720	728	1,410	1,100	1,440	2,630	3,830	7,250	2,830	1,670	1,000	2,680
21	1,750	1,610	1,270	1,100	1,580	2,510	4,700	6,850	2,720	1,580	1,920	2,260
22	1,780	1,530	1,240	725	1,500	2,960	5,090	7,040	2,230	1,560	1,840	2,311
23	635	1,730	1,220	1,300	1,590	3,290	4,780	7,500	2,120	936	1,580	2,351
24	1,660	691	1,520	1,230	1,540	3,330	4,820	5,570	2,180	1,560	1,650	1,600
25	1,780	1,360	842	1,640	1,510	3,130	4,040	5,490	1,050	1,740	1,560	3,190
26	1,830	1,600	850	1,400	793	3,150	3,280	5,250	1,610	1,840	1,560	3,060
27	1,660	674	1,110	1,240	1,510	3,400	4,830	4,850	2,830	2,130	841	2,330
28	1,700	1,470	1,300	1,390	1,500	3,270	4,480	5,750	1,860	2,020	1,530	2,380
29	1,740	1,510	1,260	621		2,810	3,160	5,380	2,120	1,860	1,600	2,240
30	634	1,520	1,310	1,360		2,690	2,530	4,460	2,130	989	1,760	2,280
31	1,580		1,710	1,440		2,750		4,800		1,740	1,530	

Daily discharge, in second-feet, of St. Croix River near St. Croix Falls, Wis.,  
for the years ending Sept. 30, 1902-1905; 1910-1914.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1911-12</b>												
1	1,630	2,670	2,000	1,470	1,420	1,670	4,790	8,560	8,510	2,260	1,210	1,030
2	2,580	2,470	2,210	2,190	1,110	1,720	5,960	6,890	7,500	1,640	1,940	1,410
3	2,450	2,460	1,100	2,040	1,660	920	6,090	7,050	7,370	1,550	1,790	1,770
4	2,450	2,430	2,260	2,070	1,110	1,820	5,670	10,800	6,880	989	922	2,110
5	2,480	1,210	2,170	1,660	1,460	1,120	8,350	18,900	5,400	1,700	866	2,530
6	2,870	2,220	2,160	1,650	1,260	1,310	9,670	33,500	4,590	1,580	1,710	2,750
7	3,250	2,490	2,210	1,230	1,420	1,370	8,470	28,700	4,100	866	1,700	2,830
8	4,110	2,460	2,250	1,510	1,510	1,670	6,590	24,300	4,340	1,910	1,170	1,900
9	4,260	2,540	2,200	1,620	1,430	1,700	8,040	19,100	4,170	1,820	1,500	1,980
10	4,910	2,460	1,150	1,570	1,580	930	7,420	14,200	4,580	3,830	2,010	2,310
11	3,900	2,550	2,070	1,580	1,180	1,680	4,170	11,400	2,700	2,850	928	4,450
12	3,370	1,340	2,120	1,320	2,000	1,350	5,140	9,830	2,530	1,380	1,880	2,140
13	3,140	2,430	2,200	1,730	1,160	1,220	5,400	8,740	2,570	1,380	2,140	2,280
14	3,350	1,900	2,230	1,280	1,280	1,480	5,340	7,230	2,440	822	2,080	2,120
15	4,350	1,890	2,190	1,010	1,420	1,750	5,780	9,540	2,230	5,160	2,010	1,300
16	4,590	1,710	2,220	1,290	1,460	1,710	5,890	8,330	2,540	2,090	1,760	2,240
17	5,010	1,990	1,060	940	1,750	900	8,260	7,920	3,230	1,720	1,640	2,390
18	5,180	1,880	2,160	1,280	950	1,650	6,420	4,950	3,940	1,670	1,120	2,120
19	4,900	1,100	2,200	1,410	1,860	1,390	7,280	4,040	3,480	1,680	2,170	1,800
20	5,190	1,730	2,230	1,620	1,240	1,420	6,430	4,520	2,300	1,560	2,430	1,900
21	4,950	1,950	2,240	1,120	1,310	1,930	6,070	4,610	2,270	899	2,510	2,010
22	4,970	2,110	2,300	1,440	1,570	1,900	5,480	4,510	2,500	1,940	2,380	1,410
23	5,150	2,080	2,160	1,380	1,470	1,970	5,560	4,760	1,550	1,620	2,080	1,910
24	4,650	2,080	1,040	1,430	1,830	710	5,240	4,870	2,140	1,690	1,690	1,800
25	5,390	2,100	884	1,430	970	1,890	5,610	5,220	2,330	1,620	937	1,960
26	4,880	1,100	1,990	1,420	1,980	1,490	5,990	4,330	2,360	1,770	1,820	1,820
27	4,570	2,080	2,240	1,510	1,520	1,860	9,590	5,130	2,620	1,640	1,910	2,000
28	3,110	1,980	2,370	1,170	1,490	1,950	11,300	5,510	2,650	823	1,860	1,990
29	1,010	2,110	2,430	1,810	1,570	1,910	10,500	5,550	2,450	1,530	1,940	1,300
30	3,090	1,300	2,380	1,550	-----	1,830	8,910	4,960	1,470	1,900	2,000	2,140
31	3,000	-----	1,140	1,430	-----	1,460	-----	5,270	-----	1,820	1,930	-----
<b>1912-13</b>												
1	1,830	1,790	1,610	760	1,420	1,630	3,190	4,940	2,500	3,030	3,480	2,410
2	1,760	1,920	1,540	1,270	1,170	1,020	3,280	4,470	3,980	1,450	3,160	2,660
3	1,600	1,510	1,350	1,590	1,410	1,400	5,060	4,080	6,400	2,060	2,390	3,490
4	1,780	1,630	1,940	1,670	1,340	1,270	5,890	4,480	6,260	1,260	3,420	3,260
5	1,960	1,520	1,920	1,250	1,190	1,120	6,370	5,480	4,630	1,240	3,380	3,050
6	1,530	1,780	1,740	1,200	1,210	1,220	6,580	4,580	3,240	1,230	3,150	2,910
7	1,340	1,630	1,360	1,270	1,160	1,280	7,190	3,610	3,200	2,820	3,380	1,790
8	2,360	1,740	1,070	1,480	1,400	1,440	8,420	4,810	1,700	3,320	3,070	2,780
9	2,060	1,750	1,360	1,190	1,200	935	8,610	3,790	3,020	3,260	3,130	2,860
10	1,740	1,590	1,190	1,560	1,250	1,360	7,460	3,870	3,370	3,350	1,660	2,730
11	1,750	1,770	1,260	1,440	1,230	1,640	7,020	3,990	3,380	3,320	2,420	2,680
12	1,960	1,600	1,240	1,190	1,140	1,690	6,160	3,470	3,340	3,160	2,860	2,610
13	1,690	1,590	1,230	1,500	1,130	2,240	5,470	3,290	3,070	2,290	2,790	2,560
14	2,020	1,660	1,430	1,300	1,140	2,520	5,900	3,520	2,880	4,410	2,450	1,560
15	2,090	1,560	1,650	1,230	1,320	2,590	6,290	3,080	1,700	4,560	1,910	2,580
16	2,100	1,740	1,440	1,380	1,070	1,270	6,270	3,120	2,730	5,450	2,440	2,830
17	2,090	1,340	1,680	1,130	1,280	971	6,950	4,410	2,520	4,380	1,540	2,740
18	2,060	1,640	1,530	1,820	1,190	1,900	5,400	3,100	2,400	6,030	2,440	2,670
19	2,000	1,560	1,410	1,120	1,160	1,800	6,100	4,950	2,500	6,200	2,500	2,200
20	1,840	1,630	1,610	1,450	1,330	2,060	6,220	6,870	2,310	5,620	2,530	2,600
21	1,900	1,630	1,790	1,260	1,310	1,990	6,120	6,550	2,410	5,230	2,550	1,550
22	1,720	1,630	1,440	1,310	1,430	2,570	5,990	8,980	1,570	4,280	2,750	1,910
23	1,830	1,720	1,350	1,340	1,150	1,330	5,780	8,590	2,350	3,420	2,660	2,060
24	1,750	1,460	1,850	1,310	1,350	1,800	7,000	8,560	2,600	3,670	1,620	2,880
25	1,840	1,520	1,220	1,500	1,270	1,830	7,500	6,290	2,070	3,950	2,620	1,730
26	2,080	876	1,790	1,140	1,380	1,730	7,120	6,780	2,100	3,660	2,670	2,550
27	1,580	1,190	1,500	1,280	1,280	2,230	8,640	5,480	1,830	1,830	3,040	2,530
28	1,700	1,300	1,690	1,320	1,280	1,850	8,350	5,090	2,010	3,080	3,260	1,660
29	1,800	949	1,480	1,260	-----	2,590	6,520	4,380	1,490	3,600	3,340	2,760
30	1,760	1,350	1,450	1,300	-----	1,420	6,140	3,600	3,100	3,720	3,350	2,740
31	1,710	-----	1,100	1,340	-----	2,560	-----	3,510	-----	3,910	2,010	-----

Daily discharge, in second-feet, of St. Croix River near St. Croix Falls, Wis.,  
for the years ending Sept. 30, 1902-1905; 1910-1914.—(Concluded.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1913-14												
1-----	1,910	3,330	3,500	2,110	1,030	1,090	3,310	12,000	8,380	15,000	3,540	3,220
2-----	2,460	1,940	3,690	1,560	1,760	1,720	3,480	12,300	6,510	14,500	1,640	3,420
3-----	2,340	3,760	3,620	1,740	1,740	1,460	3,400	11,300	6,310	13,100	2,260	3,350
4-----	2,390	3,650	3,850	1,680	1,560	1,650	3,460	11,400	4,810	11,500	2,240	3,450
5-----	1,610	3,510	3,870	1,540	1,700	1,630	3,910	12,000	4,480	8,840	2,140	3,970
6-----	2,610	3,650	3,460	1,680	1,920	1,700	5,600	11,900	4,340	6,820	2,080	3,270
7-----	2,790	3,740	1,900	1,820	1,880	3,050	4,470	12,000	7,100	4,680	2,110	3,120
8-----	2,660	3,400	3,420	1,780	1,280	1,180	3,950	11,300	5,670	4,260	2,410	3,370
9-----	2,960	1,800	2,030	2,460	1,670	1,860	3,440	10,400	5,940	4,930	1,810	3,480
10-----	3,130	3,560	1,490	2,090	1,410	1,720	3,460	9,750	6,000	6,230	2,230	3,580
11-----	4,500	3,480	1,830	1,650	1,430	1,700	3,320	7,390	6,950	5,610	3,040	3,250
12-----	6,120	3,510	2,720	1,870	1,920	2,110	1,760	6,990	5,750	4,960	3,340	3,050
13-----	6,420	3,520	3,210	1,670	1,450	2,160	3,250	6,930	5,540	4,140	3,340	1,790
14-----	7,440	3,660	1,810	1,510	1,500	2,040	3,580	6,370	5,120	5,020	3,590	3,840
15-----	7,120	3,730	2,660	1,790	1,390	1,500	3,630	6,210	3,900	5,280	3,430	4,350
16-----	6,810	1,970	2,700	1,660	1,540	2,650	3,630	5,150	4,720	6,200	1,690	5,820
17-----	6,330	3,320	2,620	2,230	1,460	2,750	3,560	5,300	4,470	4,530	3,210	5,680
18-----	5,990	3,910	2,520	1,670	1,450	2,880	3,610	4,320	3,940	3,640	3,600	6,510
19-----	5,280	3,940	2,000	1,430	1,490	2,440	1,680	4,100	3,760	3,270	3,430	6,300
20-----	5,070	3,710	2,120	1,880	1,300	2,200	4,680	4,160	3,570	3,980	3,510	4,800
21-----	4,030	3,640	1,430	1,510	1,930	2,770	7,030	3,680	4,450	4,190	3,440	5,660
22-----	4,090	3,660	2,000	1,660	1,070	1,520	6,900	3,980	4,780	3,930	2,780	5,210
23-----	4,400	2,020	1,560	2,420	1,590	2,680	7,410	5,840	4,220	3,820	1,540	5,210
24-----	6,860	3,360	1,690	2,670	1,450	2,480	7,130	5,560	8,690	3,790	2,930	5,520
25-----	3,640	3,760	1,610	1,540	1,530	2,300	7,290	5,880	12,600	3,730	3,190	4,260
26-----	1,820	3,870	1,780	1,350	1,490	2,570	9,410	4,990	11,400	2,150	3,180	4,610
27-----	3,460	2,510	2,130	1,390	1,580	2,550	9,590	4,550	11,800	3,670	3,220	3,750
28-----	3,630	3,560	1,670	1,530	1,310	2,270	10,200	4,720	14,300	3,100	3,130	3,670
29-----	3,570	4,000	1,510	1,810	-----	1,630	11,600	5,000	15,300	1,920	2,860	3,700
30-----	3,520	1,990	1,580	1,710	-----	3,170	11,600	8,140	15,200	2,190	1,440	3,280
31-----	3,550	-----	1,680	2,070	-----	3,320	-----	7,920	-----	2,540	2,630	-----

NOTE:—Daily discharge from Jan. 1, 1910, to Dec. 31, 1911, differs from that published in the report on Water Resources of Minnesota by the State Drainage Commission on account of publishing the discharge in the above tables to three significant figures only.



Monthly discharge of St. Croix River near St. Croix Falls, Wis.,  
for 1902-1914.

[Drainage area, 5,930 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1902						
January.....	1,980	1,680	1,880	0.317	0.37	-----
February.....	2,480	1,700	1,880	.317	.33	-----
March.....	5,000	2,270	3,310	.558	.64	-----
April.....	5,560	300	2,220	.374	.42	-----
May.....	9,600	3,910	2,020	.341	.39	-----
June.....	11,900	960	5,950	1.00	1.12	-----
July.....	12,100	750	5,500	.927	1.07	-----
August.....	6,000	1,020	1,860	.314	.36	-----
September.....	4,110	510	1,860	.314	.35	-----
1902-03						
October.....	3,600	800	2,000	.337	.39	-----
November.....	5,190	2,050	4,080	.688	.77	-----
December.....	2,560	2,020	2,250	.379	.44	-----
January.....	2,060	1,730	1,920	.324	.37	-----
February.....	2,020	1,700	1,880	.317	.33	-----
March.....	11,500	1,880	5,560	.938	1.08	-----
April.....	20,200	6,770	11,900	2.01	2.24	-----
May.....	16,200	8,920	12,700	2.14	2.47	-----
June.....	10,400	907	5,180	.873	.97	-----
July.....	11,600	251	6,190	1.04	1.20	-----
August.....	7,900	1,600	4,820	8.13	.94	-----
September.....	(a)	1,060	13,000	2.19	2.44	-----
The year.....	(a)	251	5,960	1.01	13.64	-----
1903-04						
October.....	(a)	5,610	13,100	2.21	2.25	-----
November.....	7,600	850	4,270	.720	.80	-----
December.....	3,440	2,350	2,750	.464	.53	-----
January.....	3,660	2,200	2,610	.440	.51	-----
February.....	2,520	2,000	2,240	.378	.41	-----
March.....	4,510	2,290	2,850	.480	.55	-----
April.....	18,300	5,560	10,700	1.80	2.01	-----
May.....	13,400	5,250	8,180	1.38	1.59	-----
June.....	17,900	1,570	8,870	1.50	1.67	-----
July.....	6,170	950	3,140	.529	.61	-----
August.....	5,290	840	2,330	.393	.45	-----
September.....	5,040	1,940	3,540	.597	.67	-----
The year.....	(a)	840	5,380	.907	12.35	-----
1904-05						
October.....	18,700	1,240	10,600	1.79	2.06	-----
November.....	8,780	2,250	4,840	.816	.91	-----
December.....	2,970	1,690	2,440	.411	.47	-----
January.....	3,100	1,680	2,500	.422	.49	-----
February.....	2,510	1,950	2,080	.351	.37	-----
March.....	5,240	2,630	3,410	.575	.66	-----
April.....	12,200	580	5,630	.949	1.06	-----
May.....	15,000	3,710	9,330	1.57	1.81	-----
June.....	14,800	1,610	9,620	1.62	1.81	-----
July.....			7,850	1.32	1.52	-----
August.....			3,900	.658	.76	-----
September.....			5,460	.921	1.03	-----
The year.....			5,640	.951	12.95	-----

(a) In excess of 20,000 second-feet.

Monthly discharge of St. Croix River near St. Croix Falls, Wis.,  
for 1902-1914.—(Continued.)

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1905-06						
October.....			3,840	0.648	0.75	.....
November.....			4,330	.730	.81	.....
December.....			2,980	.503	.58	.....
January.....						.....
February.....						.....
March.....						.....
April.....						.....
May.....			8,100	1.37	1.58	.....
June.....			10,700	1.80	2.01	.....
July.....			4,640	.782	.90	.....
August.....			3,460	.583	.67	.....
September.....			4,790	.808	.90	.....
1906-07						
October.....			4,060	.685	.79	.....
November.....						.....
December.....						.....
January.....						.....
February.....						.....
March.....			7,380	1.24	1.43	.....
April.....			10,800	1.82	2.03	.....
May.....			7,370	1.24	1.43	.....
June.....			4,580	.772	.86	.....
July.....			3,410	.575	.66	.....
August.....			2,770	.467	.54	.....
September.....			4,680	.789	.88	.....
1907-08						
October.....			3,150	.531	.61	.....
November.....			2,410	.406	.45	.....
December.....			2,510	.423	.49	.....
January.....			2,650	.447	.52	.....
February.....			3,030	.511	.55	.....
March.....			2,820	.476	.55	.....
April.....			6,630	1.12	1.25	.....
May.....			11,800	1.99	2.29	.....
June.....			10,500	1.77	1.98	.....
July.....			3,500	.590	.68	.....
August.....			1,790	.302	.35	.....
September.....						.....
1908-09						
October.....			2,210	.373	.43	.....
November.....			2,660	.449	.50	.....
December.....			2,620	.442	.51	.....
January.....			3,020	.509	.59	.....
February.....			2,880	.486	.51	.....
March.....			3,180	.536	.62	.....
April.....			4,410	.744	.83	.....
May.....			8,490	1.43	1.65	.....
June.....			4,200	.708	.79	.....
July.....			2,720	.459	.53	.....
August.....			4,610	.777	.90	.....
September.....			2,570	.433	.48	.....
The year.....			3,630	.612	8.34	.....



*Monthly discharge of St. Croix River near St. Croix Fall, Wis.,  
for 1902-1914.—(Continued.)*

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1909-10						
October.....			3,510	0.592	0.68	
November.....			4,440	.749	.84	
December.....			5,120	.863	.99	
January.....	3,950	2,500	3,050	.514	.59	
February.....	4,150	2,460	3,080	.519	.54	
March.....	9,870	2,880	5,970	.101	1.16	
April.....	5,590	1,960	3,930	.663	.74	
May.....	5,460	790	2,760	.465	.54	
June.....	3,170	550	1,870	.315	.35	
July.....	1,840	75	1,360	.229	.26	
August.....	1,700	393	1,340	.226	.26	
September.....	1,820	606	1,420	.239	.27	
The year.....			3,150	.531	7.22	
1910-11						
October.....	1,950	602	1,520	.256	.30	
November.....	1,730	671	1,340	.226	.25	
December.....	1,950	629	1,290	.218	.25	
January.....	1,690	557	1,160	.196	.23	
February.....	1,620	793	1,420	.239	.25	
March.....	3,400	819	2,300	.388	.45	
April.....	5,090	1,850	3,430	.578	.64	
May.....	7,500	962	4,020	.678	.78	
June.....	5,870	1,050	3,170	.535	.60	
July.....	3,470	928	1,770	.298	.34	
August.....	2,150	841	1,770	.298	.34	
September.....	4,420	1,010	2,150	.363	.40	
The year.....	7,500	557	2,110	.356	4.83	
1911-12						
October.....	5,390	1,010	3,830	.646	.74	
November.....	2,670	1,100	2,030	.342	.38	
December.....	2,430	884	1,990	.336	.39	
January.....	2,190	940	1,490	.251	.29	
February.....	2,000	950	1,450	.245	.26	
March.....	1,970	710	1,540	.260	.30	
April.....	11,300	4,170	6,850	1.16	1.29	
May.....	33,500	4,040	9,780	1.65	1.90	
June.....	8,510	1,470	3,590	.605	.68	
July.....	5,160	822	1,800	.304	.35	
August.....	2,510	866	1,740	.293	.34	
September.....	4,450	1,030	2,060	.347	.39	
The year.....	33,500	710	3,190	.538	7.31	
1912-13						
October.....	2,360	1,340	1,850	.312	.36	
November.....	1,920	876	1,550	.261	.29	
December.....	1,940	1,070	1,490	.251	.29	
January.....	1,820	760	1,330	.224	.26	
February.....	1,430	1,070	1,260	.212	.22	
March.....	2,590	935	1,720	.290	.33	
April.....	8,640	3,190	6,430	1.08	1.20	
May.....	8,980	3,080	4,890	.825	.95	
June.....	6,400	1,490	2,890	.487	.54	
July.....	6,200	1,230	3,510	.592	.68	
August.....	3,480	1,540	2,710	.457	.53	
September.....	3,490	1,550	2,510	.423	.47	
The year.....	8,980	760	2,680	.452	6.12	

NOTE.—Mean monthly discharge, 1910-11, differs from that previously published on account of using daily discharge to three significant figures only.

*Monthly discharge of St. Croix River near St. Croix Falls, Wis.,  
for 1902-1914.—(Concluded.)*

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1913-14						
October.....	7,440	1,610	4,150	0.700	0.81	.....
November.....	4,000	1,800	3,320	.560	.62	.....
December.....	3,870	1,430	2,380	.401	.46	.....
January.....	2,670	1,350	1,790	.302	.35	.....
February.....	1,930	1,030	1,530	.258	.27	.....
March.....	3,320	1,090	2,150	.363	.42	.....
April.....	11,600	1,680	5,310	.895	1.00	.....
May.....	12,300	3,680	7,470	1.26	1.45	.....
June.....	15,300	3,570	7,000	1.18	1.32	.....
July.....	15,060	1,920	5,530	.933	1.08	.....
August.....	3,600	1,440	2,740	.462	.53	.....
September.....	6,510	1,790	4,150	.700	.78	.....
The year.....	15,300	1,030	3,970	.669	9.09	

**NOTE.**—Monthly discharge from January, 1910, to December, 1911, differs from that published in the report on Water Resources of Minnesota, by the State Drainage Commission, on account of using only three significant figures in the above tables.

### NAMAKAGON RIVER AT TREGO, WIS.

**Location.**—At Chicago & North Western railway bridge at Trego, Wis., about 20 miles above confluence of Namakagon and Totogatic rivers.

**Records available.**—March 11 to September 30, 1914.

**Drainage area.**—481 square miles.

**Gage.**—Enameled staff fastened to retaining wall, left bank of river, just above railroad bridge; read once daily in the morning to quarter tenths; limits of use: hundredths below 1.0 foot, half tenths between 1.0 and 2.5 feet, and tenths above 2.5 feet.

**Control.**—Heavy gravel; probably permanent.

**Discharge measurements.**—Made from lower chords of railroad bridge.

**Winter flow.**—Discharge relation affected by ice; estimates of flow based on discharge measurements made through ice.

**Regulation.**—None. Natural storage large; yearly fluctuation small.

**Accuracy.**—Rating curve well-defined, records excellent.

*Discharge measurements of Namakagon River at Trego, Wis., during the year  
ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
1914		Feet	Sec.-feet
March 11 (a).....	G. H. Canfield.....	(b)	264
March 23 (c).....	G. H. Canfield.....	1.56	353
April 10.....	G. H. Canfield.....	1.64	383
April 22.....	M. F. Rather.....	2.10	673
May 4.....	M. F. Rather.....	2.15	692
June 10.....	M. F. Rather.....	1.72	476
August 5.....	M. F. Rather.....	1.80	472

(a) Measurement made under complete ice cover.

(b) Gage not installed until Mar. 23.

(c) Measurement made from bridge 150 feet below gage; very little ice near gage.

Daily gage height, in feet, of Namakagon River at Trego, Wis., for the year ending Sept. 30, 1914.  
[R. A. Krens, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1							1.65	2.25	1.7	2.6	1.75	1.8
2							1.7	2.25	1.7	2.6	1.75	1.85
3							1.65	2.15	1.7	2.6	1.7	2.0
4							1.6	2.15	1.8	2.4	1.8	2.0
5							1.6	2.1	1.8	2.3	1.8	1.8
6							1.55	2.1	1.75	2.3	1.75	1.75
7							1.6	2.1	1.8	2.1	1.75	1.75
8							1.6	2.15	1.75	2.0	1.75	1.75
9							1.55	2.2	1.8	1.6	1.75	1.75
10							1.55	2.15	1.75	1.6	1.75	1.75
11							1.55	2.15	1.75	1.3	1.75	2.0
12							1.6	2.1	1.7	2.0	1.8	1.8
13							1.55	2.05	1.65	2.5	1.85	1.8
14							1.6	2.0	1.7	2.5	1.8	1.9
15							1.65	2.0	1.65	2.4	1.8	1.75
16							1.65		1.75	2.35	1.8	1.75
17							1.7	1.9	1.7	2.35	1.8	2.0
18							1.7	1.9	1.75	2.35	1.8	2.0
19							2.0	1.9	1.75	2.3	1.8	2.0
20							2.0	1.9	1.75	2.3	1.8	2.1
21							2.1	2.0	1.7	2.3	1.8	2.0
22							2.1	2.15	1.75	2.0	1.8	2.1
23						1.55	2.1	2.15	1.7	1.7	1.8	2.1
24						2.0	2.0	2.1	2.1	1.7	1.9	2.0
25						1.55	2.1	2.0	2.3	1.75	1.9	2.0
26						1.5	2.1	1.95	2.3	2.0	1.8	1.8
27						1.1	2.15	1.9	2.35	2.0	1.85	1.75
28						1.5	2.2	1.8	2.6	1.75	1.8	1.75
29						1.55	2.3	1.95	2.6	1.7	1.8	1.7
30						1.7	2.3	1.8	2.55	1.7	1.75	1.7
31						1.65		1.8		1.6	1.8	

NOTE.—Discharge relation affected by ice about March 23-31.

*Daily discharge, in second-feet, of Namakagon River at Trego, Wis.,  
for the year ending Sept. 30, 1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1							393	768	417	1,020	444	472
2							417	768	417	1,020	444	502
3							393	698	417	1,020	417	597
4							369	698	472	873	472	597
5							369	664	472	803	472	472
6							350	664	444	803	444	444
7							369	664	472	664	444	444
8							369	698	444	597	444	444
9							350	733	472	369	444	444
10							350	698	444	369	444	444
11							350	698	444	298	444	597
12							369	664	417	597	472	472
13							350	630	393	944	502	472
14							369	597	417	944	472	532
15							393	597	393	873	472	444
16							393	a564	444	838	472	444
17							417	532	417	838	472	597
18							417	532	444	838	472	597
19							597	532	444	803	472	597
20							597	532	444	803	472	664
21							664	597	417	803	472	597
22							664	698	444	597	472	664
23							664	698	417	417	472	664
24							597	664	664	417	532	597
25							664	597	803	444	532	597
26							664	564	803	597	472	472
27							698	532	838	597	502	444
28							733	472	1,020	444	472	444
29							803	502	1,020	417	472	417
30							803	472	980	417	444	417
31								472		369	472	

(a) Interpolated.

NOTE.—Daily discharge computed from a rating curve well defined between 332 and 733 second-feet (gage heights 1.5 and 2.2 feet). Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, as follows: Mar. 11-20, 310 second-feet; and Mar. 21-31, 375 second-feet.

*Monthly discharge of Namakagon River at Trego, Wis.,  
for the year ending Sept. 30, 1914.*

[Drainage area, 481 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
March (11-31)			344	0.715	0.56	B
April	803	350	498	1.04	1.16	A
May	768	472	619	1.29	1.49	A
June	1,020	393	538	1.12	1.25	B
July	1,020	298	672	1.40	1.61	A
August	532	417	468	.973	1.12	A
September	664	417	520	1.08	1.20	A

### YELLOW RIVER AT WEBSTER, WIS.

**Location.**—At Minneapolis, St. Paul & Sault Ste. Marie railroad bridge, 1 mile north of Webster, Wis.; about 2 miles above Yellow Lake, and 10 miles above mouth of river.

**Records available.**—March 21 to September 30, 1914.

**Drainage area.**—228 square miles.

**Gage.**—Vertical staff fastened to piles supporting timber bed and trestle, left bank of the river; read twice daily, morning and evening, to quarter

tenths. Limits of use: hundredths below 3.0 feet, half tenths between 3.0 and 4.0 feet, and tenths above 4.0 feet.

**Control.**—Bed of river consists of gravel. Grass grows during open-water season.

**Discharge measurements.**—Made from one-span highway bridge about 600 feet below railroad bridge; low-water measurements can be made by wading.

**Winter flow.**—Discharge relation affected by ice; discharge is estimated from measurements made through the ice.

**Regulation.**—None.

**Accuracy.**—Gage height records reliable; discharge relation affected during summer by growth of grass in the river.

Data insufficient for estimates of discharge.

Discharge measurements of Yellow River at Webster, Wis., during the year ending Sept. 30, 1914.

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
March 12(a)	G. H. Canfield		153
March 21(b)	G. H. Canfield	1.92	198
April 7	G. H. Canfield	.68	184
April 23	M. F. Rather	1.00	283
April 29	J. B. Stewart	1.42	305
August 19(c)	J. B. Stewart	1.20	157

(a) Measurement made under complete ice cover. Gage not installed until Mar. 21.

(b) Partly open at bridge, complete ice cover 100 feet below gage.

(c) Heavy growth of grass and moss causing backwater.

Daily gage height, in feet, of Yellow River at Webster, Wis., for the year ending Sept. 30, 1914.  
[Hans Wester, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1							0.85	1.24	0.55	2.32	1.06	1.61
2							.80	1.15	.52	2.31	1.02	1.76
3							.82	1.14	.55	2.24	1.00	1.78
4							.80	1.20	.70	2.21	.98	1.75
5							.78	1.14	.72	2.15	.94	1.75
6							.72	1.02	.78	2.05	.95	1.74
7							.68	.96	.76	1.94	.92	1.71
8							.66	.92	.76	1.77	.91	1.69
9							.64	.86	.76	1.60	.96	1.66
10							.62	.82	.72	1.45	1.00	1.72
11							.64	.80	.70	1.32	1.00	1.68
12							.62	.78	.65	1.24	1.00	1.65
13							.62	.75	.62	1.19	1.14	1.68
14							.60	.70	.72	1.12	1.09	1.70
15							.60	.68	.82	1.09	1.09	1.70
16							.64	.65	.78	1.12	1.12	1.68
17							.64	.62	.75	1.08	1.12	1.65
18							.70	.58	.74	1.05	1.20	1.65
19							1.08	.55	.82	1.06	1.20	1.64
20							1.04	.56	.88	1.08	1.28	1.62
21						1.92	1.05	.70	.88	1.06	1.24	1.60
22						1.92	1.02	.78	.92	1.10	1.24	1.61
23						1.92	.98	.75	.88	1.18	1.35	1.61
24						1.82	1.05	.72	1.58	1.20	1.39	1.62
25						1.20	1.16	.72	1.72	1.20	1.45	1.60
26						1.25	1.12	.66	1.84	1.18	1.50	1.59
27						1.00	1.10	.62	2.28	1.19	1.49	1.55
28						.95	1.28	.62	2.38	1.16	1.52	1.52
29						.90	1.42	.68	2.28	1.10	1.50	1.49
30						.88	1.35	.62	2.18	1.05	1.58	1.41
31						.85		.56		1.08	1.59	

NOTE.—Discharge relation affected by ice about Mar. 21-27.

R.R.-W.P.—16

**APPLE RIVER NEAR SOMERSET, WIS.**

**Location.**—At the power plant of the St. Croix Power Co.,  $3\frac{1}{2}$  miles below Somerset, Wis., and 2 miles above the mouth of the river.

**Records available.**—January, 1901, to June 30, 1914, estimate of monthly discharge; July 12 to September 30, 1914, daily discharge.

**Gage.**—Vertical staff; not used in determination of flow.

**Discharge.**—The discharge of the turbines in second-feet corresponding to the number of kilowatts is determined for each hour during the day from a record of the number of wheels in operation and the load; the sum of the discharges divided by 24 gives the average discharge through the turbines. To this quantity is added the leakage through the average number of wheels idle each day, the sum giving the daily flow through the power house. Water is seldom wasted over the spillway of the dam, but when it is so wasted the quantity is computed from weir formulas and added to the flow through the plant. There is a constant leakage through the gate and flash-boards amounting to about 3 second-feet. This quantity has not been taken into consideration in computing the published records.

**Regulation.**—There are a number of power plants on the Apple River above the station. The pondage at these plants is small, and though the daily flow may be controlled to some extent the mean monthly flow probably corresponds closely to the natural flow.

**Accuracy.**—From 1901 to 1909 the discharge through the plant was determined from tables computed from data collected at tests on one of the turbines made at the flume of the Holyoke Water Power Co., Holyoke, Mass. During the summer of 1909 engineers of the St. Croix Power Co. made tests on the water flowing through all the wheels as actually installed, by means of a sharp-crested weir 710 inches long located about 60 feet below the power house. These tests gave results about 3 per cent larger than the Holyoke tests, and tables based on them have been used in determining the discharge through the plant from 1909 to date. During June 1914 a series of current meter measurements were made by the Wisconsin Railroad Commission and the United States Geol. Survey, and a rating curve for the tail race was developed. Twelve tests were then run with different wheels and loads. It was found that the discharge as determined by the current meter and the discharge as computed by the company agreed very closely, the percentage difference for the twelve tests ranging from  $-6.4$  per cent to  $+1.8$  per cent, with an average of  $-2.0$  per cent; the discharge as determined by the company being 2 per cent less than that determined by the current meter.

**Cooperation.**—Records furnished by the St. Paul Gas Light Co., of St. Paul, Mr. Fred A. Otto, superintendent.



*Monthly discharge Apple River near Somerset, Wis., for the years  
ending Sept. 30, 1901-1914.*

[Drainage area, 550 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1900-01						
January.....			340	0.618	0.71	-----
February.....			330	.600	.62	-----
March.....			448	.815	.94	-----
April.....			837	1.52	1.70	-----
May.....			510	.927	1.07	-----
June.....			380	.691	.77	-----
July.....			400	.727	.84	-----
August.....			250	.455	.52	-----
September.....			270	.491	.55	-----
1901-02						
October.....			330	.600	.69	-----
November.....			330	.600	.67	-----
December.....			230	.418	.48	-----
January.....			233	.424	.49	-----
February.....			307	.558	.58	-----
March.....			360	.655	.76	-----
April.....			430	.782	.87	-----
May.....			480	.873	1.01	-----
June.....			360	.655	.73	-----
July.....			480	.873	1.01	-----
August.....			340	.618	.71	-----
September.....			233	.424	.47	-----
The year.....			343	.624	8.47	-----
1902-03						
October.....			307	.558	.64	-----
November.....			360	.654	.73	-----
December.....			276	.502	.58	-----
January.....			259	.471	.54	-----
February.....			240	.436	.45	-----
March.....			599	1.09	1.26	-----
April.....			554	1.01	1.13	-----
May.....			860	1.56	1.80	-----
June.....			468	.851	.95	-----
July.....			482	.876	1.01	-----
August.....			366	.665	.77	-----
September.....			674	1.23	1.37	-----
The year.....			454	.825	11.23	-----
1903-04						
October.....			623	1.13	1.30	-----
November.....			360	.655	.73	-----
December.....			317	.576	.66	-----
January.....			392	.713	.82	-----
February.....			314	.571	.62	-----
March.....			406	.738	.85	-----
April.....			729	1.33	1.48	-----
May.....			633	1.15	1.33	-----
June.....			593	1.08	1.20	-----
July.....			450	.818	.94	-----
August.....			316	.575	.66	-----
September.....			508	.924	1.03	-----
The year.....			470	.855	11.62	-----



*Monthly discharge of Apple River near Somerset, Wis., for the year ending Sept. 30, 1901-1914.—(Continued).*

Month	Discharge in second-feet				Run-off (depth in inches on drainage area	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1904-05						
October.....			550	1.00	1.15	
November.....			459	.835	.93	
December.....			321	.584	.67	
January.....	387	227	328	.596	.69	
February.....	383	284	319	.580	.60	
March.....	649	309	406	.738	.85	
April.....	464	300	443	.805	.90	
May.....	578	326	420	.764	.88	
June.....	2,280	312	1,030	1.87	2.09	
July.....	963	313	532	.967	1.12	
August.....	684	302	424	.771	.89	
September.....	884	358	545	.991	1.11	
The year.....			481	.875	11.88	
1905-06						
October.....	590	361	490	.891	1.03	
November.....	597	272	425	.773	.86	
December.....	507	185	392	.713	.82	
January.....	406	242	348	.633	.73	
February.....	437	150	327	.595	.62	
March.....	479	231	367	.667	.77	
April.....	1,300	486	881	1.60	1.78	
May.....	2,250	458	1,000	1.82	2.10	
June.....	1,360	480	732	1.33	1.48	
July.....	667	359	452	.822	.95	
August.....	1,170	275	506	.920	1.06	
September.....	692	253	501	.911	1.02	
The year.....	2,250	150	535	.973	13.22	
1906-07						
October.....	883	246	463	.842	.97	
November.....	750	306	536	.975	1.09	
December.....	592	276	436	.793	.91	
January.....	443	261	354	.644	.74	
February.....	446	269	350	.636	.66	
March.....	1,640	252	706	1.28	1.48	
April.....	1,070	376	657	1.19	1.33	
May.....	479	283	418	.760	.88	
June.....	631	230	382	.695	.78	
July.....	1,430	217	520	.945	1.09	
August.....	404	240	322	.585	.67	
September.....	1,120	178	416	.756	.84	
The year.....	1,640	178	463	.842	11.44	
1907-08						
October.....	468	178	343	.624	.72	
November.....	399	199	312	.567	.63	
December.....	342	147	272	.495	.57	
January.....	302	214	262	.476	.55	
February.....	335	239	277	.504	.54	
March.....	655	251	373	.678	.78	
April.....	968	329	478	.869	.97	
May.....	1,380	266	688	1.25	1.44	
June.....	1,050	564	784	1.43	1.60	
July.....	835	252	435	.791	.91	
August.....	320	138	255	.464	.53	
September.....	274	144	226	.411	.46	
The year.....	1,380	138	392	.713	9.70	

Monthly discharge of Apple River near Somerset, Wis., for years ending Sept. 30, 1901-1914.—(Continued).

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1908-09						
October.....	428	210	291	0.529	0.61	-----
November.....	367	241	261	.475	.53	-----
December.....	316	166	257	.467	.54	-----
January.....	300	187	251	.456	.53	-----
February.....	283	198	252	.458	.48	-----
March.....	431	248	301	.547	.63	-----
April.....	803	254	503	.915	1.02	-----
May.....	841	353	530	.964	1.11	-----
June.....	1,060	272	469	.853	.95	-----
July.....	281	176	246	.447	.52	-----
August.....	449	229	285	.518	.60	-----
September.....	483	232	313	.569	.63	-----
The year.....	1,060	166	330	.600	8.15	-----
1909-10						
October.....	427	241	317	.576	.66	-----
November.....	595	331	448	.815	.91	-----
December.....	603	219	381	.693	.80	-----
January.....	352	260	313	.569	.66	-----
February.....	398	207	285	.518	.54	-----
March.....	549	270	409	.744	.86	-----
April.....	398	181	279	.507	.57	-----
May.....	364	38	233	.424	.49	-----
June.....	257	131	202	.367	.41	-----
July.....	219	56	150	.273	.31	-----
August.....	211	60	151	.275	.32	-----
September.....	266	71	166	.302	.34	-----
The year.....	603	38	278	.505	6.87	-----
1910-11						
October.....	294	141	211	.384	.44	-----
November.....	306	112	197	.358	.40	-----
December.....	258	136	187	.340	.39	-----
January.....	250	150	201	.365	.42	-----
February.....	285	195	224	.407	.42	-----
March.....	300	120	245	.445	.51	-----
April.....	540	210	285	.518	.58	-----
May.....	320	180	240	.436	.50	-----
June.....	290	140	224	.407	.45	-----
July.....	220	120	165	.300	.35	-----
August.....	205	140	178	.324	.37	-----
September.....	290	160	226	.411	.46	-----
The year.....	540	112	215	.391	5.29	-----
1911-12						
October.....	890	240	472	.858	.99	-----
November.....	350	190	260	.473	.53	-----
December.....	310	190	327	.595	.69	-----
January.....	255	145	215	.391	.45	-----
February.....	250	175	208	.378	.41	-----
March.....	485	135	240	.436	.50	-----
April.....	640	275	450	.818	.91	-----
May.....	930	340	615	1.12	1.29	-----
June.....	550	240	335	.609	.68	-----
July.....	355	50	238	.433	.50	-----
August.....	415	50	248	.451	.52	-----
September.....	440	170	300	.545	.61	-----
The year.....	930	50	326	.593	8.08	-----

Monthly discharge of Apple River near Somerset, Wis., for years ending Sept. 30, 1901-1914.—(Concluded).

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1912-13						
October.....	320	170	266	0.484	0.56	.....
November.....	300	100	230	.418	.47	.....
December.....	280	100	230	.418	.48	.....
January.....	280	90	208	.378	.44	.....
February.....	250	160	202	.367	.38	.....
March.....	830	160	344	.625	.72	.....
April.....	910	320	590	1.07	1.19	.....
May.....	610	280	382	.695	.80	.....
June.....	450	160	264	.480	.54	.....
July.....	350	50	237	.431	.50	.....
August.....	420	60	245	.445	.51	.....
September.....	280	130	233	.424	.47	.....
The year.....	910	50	286	.520	7.06	.....
1913-14						
October.....	315	140	247	.449	.52	.....
November.....	290	195	242	.440	.49	.....
December.....	370	170	232	.422	.49	.....
January.....	300	150	216	.393	.45	.....
February.....	260	150	200	.364	.38	.....
March.....	310	150	240	.436	.50	.....
April.....	540	200	314	.571	.64	.....
May.....	520	180	314	.571	.66	.....
June.....	870	200	376	.684	.76	.....
July.....	708	204	328	.596	.69	.....
August.....	304	120	226	.411	.47	A
September.....	433	242	306	.556	.62	A
The year.....	870	120	270	.491	6.67	.....

NOTE.—Records furnished by the St. Paul Gas Light Co. Maximum and minimum discharge from January, 1901, to December, 1904, not available. Records from January 1, 1911, to July 31, 1914, obtained from monthly hydrographs furnished by the St. Paul Gas Light Co. Estimates for August and September, 1914, were obtained from daily records taken at the power house. See "Determination of Flow" and "Accuracy" in station description.

**CHIPPEWA RIVER AT BISHOP'S BRIDGE NEAR WINTER, WIS.**

**Location.**—Near highway bridge about 3 miles downstream from the East Fork of Chippewa River (coming in from the left) and 4 miles by road northwest of Winter, Wis.

**Records available.**—February 23, 1912, to September 30, 1914.

**Drainage area.**—775 square miles.

**Gage.**—From February 23, 1912, to January 27, 1914, a wooden staff gage nailed to a wooden pier on the right bank immediately above the bridge. On January 27, 1914, a metal staff gage was fastened to the same pier with the zero 3.44 feet below the zero of the wooden gage. Gage read once daily prior to January 27, 1914; after this date gage was read twice daily, morning and evening, to quarter tenths, limits of use: hundredths below 4.0 feet, half tenths between 4.0 and 6.5 feet, and tenths above 6.5 feet.

**Discharge measurements.**—Made from upstream side of highway bridge immediately below gage.

**Winter flow.**—Discharge relation affected by ice; flow determined from discharge measurements made through the ice.

**Regulation.**—No dams used for the purpose of storing water are now in operation above the station.

**Accuracy.**—See footnotes.

**Cooperation.**—Records from February 23, 1912, to January 27, 1914, furnished through the courtesy of the Chippewa & Flambeau Improvement Co., which has also paid the gage reader to date.

*Discharge measurements of Chippewa River near Winter, Wis.,  
for the years ending Sept. 30, 1912-1914.*

Date	Made by	Gage height	Discharge
		Feet	Sec-ft.
1912			
Feb. 23(a).....	J. A. Culter (b).....	5.64	200
July 9.....	C. B. Stewart (c).....	4.44	368
1913			
May 4(d).....	C. B. Stewart.....	6.29	1,820
July 6.....	C. B. Stewart.....	6.17	1,650
Dec. 4.....	Stewart and Hoyt.....	5.62	1,040
1914			
Jan. 27 (a).....	H. C. Beckman.....	5.50	348
Mar. 6 (a).....	O. A. Steller.....	5.57	244
May 2 (e).....	M. F. Rather.....	7.65	3,190
June 2.....	M. F. Rather.....	5.70	1,110
Sept. 16.....	M. F. Rather.....	5.65	1,060

(a) Measurement made under complete ice cover.

(b) Engineer for the Chippewa & Flambeau Improvement Co..

(c) Consulting engineer for the Chippewa & Flambeau Improvement Co

(d) Results approximate.

(e) Logs on control section

*Daily gage height, in feet, of Chippewa River near Winter, Wis.,  
for the years ending Sept. 30, 1912-1914.*

[John Edberg, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug	Sept.
<b>1912</b>												
1						5.55	5.9	6.15	5.95	4.7	4.25	5.15
2						5.55	5.9	6.1	5.9	4.65	4.25	5.15
3						5.55	5.9	6.2	5.9	4.65	4.2	5.15
4						5.55	5.95	6.6	5.75	4.6	4.2	5.15
5						5.6	5.02	6.8	5.7	4.5	4.25	5.2
6						5.6	5.95	6.9	5.55	4.4	4.3	5.15
7						5.6	5.95	6.9	5.5	4.4	4.35	5.1
8						5.6	5.7	6.9	5.45	4.45	4.35	5.05
9						5.65	5.85	6.9	5.4	4.45	4.6	5.0
10						5.6	5.9	6.7	5.3	4.45	5.0	5.0
11						5.6	5.95	6.7	5.2	4.45	5.1	4.95
12						5.6	6.0	6.6	5.15	4.45	5.35	4.85
13						5.6	6.05	6.3	5.1	4.4	5.4	4.85
14						5.55	6.1	6.05	5.05	4.4	5.4	4.85
15						5.55	6.2	6.0	5.25	4.4	5.35	4.85
16						5.55	6.2	5.9	5.45	4.35	5.45	4.9
17						5.6	6.2	5.8	5.5	4.35	5.6	4.9
18						5.6	6.15	5.7	5.5	4.3	5.55	4.95
19						5.65	6.15	5.6	5.55	4.3	5.45	4.95
20						5.65	6.05	5.6	5.55	4.25	5.25	4.9
21						5.6	6.05	5.6	5.6	4.25	5.2	4.9
22						5.55	6.05	5.65	5.65	4.4	5.2	4.9
23					5.65	5.55	6.05	5.65	5.55	4.45	5.15	4.9
24					5.65	5.55	6.05	5.7	5.45	4.5	5.1	4.9
25					5.6	5.55	6.05	5.7	5.3	4.55	5.05	4.85
26					5.55	5.6	6.05	5.7	5.15	4.5	5.05	4.85
27					5.55	5.65	6.05	5.85	5.0	4.4	5.05	4.85
28					5.6	5.7	6.1	6.0	4.9	4.4	5.0	4.85
29					5.6	5.75	6.1	6.0	4.85	4.35	5.0	4.8
30						5.8	6.1	6.0	4.8	4.35	5.05	4.8
31						5.85		5.95		4.3	5.1	
<b>1912-13</b>												
1	4.8	4.75	4.45	5.3	5.4	5.6	5.35	6.9	6.35	4.9	5.5	5.1
2	4.75	4.7	4.45	5.25	5.4	5.6	6.8	6.7	6.45	4.85	5.5	5.05
3	4.75	4.65	4.5	5.25	5.4	5.6	7.3	6.45	6.4	5.0	5.4	5.15
4	4.75	4.6	4.55	5.25	5.4	5.6	7.6	6.3	6.35	5.55	5.35	5.25
5	4.7	4.6	4.5	5.25	5.35	5.6	7.7	6.1	6.25	5.8	5.25	5.2
6	4.65	4.55	4.55	5.2	5.35	5.6	7.8	6.0	6.7	6.05	5.2	5.15
7	4.65	4.55	4.95	5.2	5.4	5.65	8.0	5.9	6.9	6.3	5.1	5.1
8	4.6	4.55	6.05	5.2	5.4	5.65	8.0	5.75	7.0	6.5	5.05	5.05
9	4.6	4.55	6.0	5.2	5.4	5.65	8.0	5.65	7.0	6.7	5.05	5.0
10	4.6	4.55	5.65	5.15	5.4	5.65	7.1	5.55	6.9	6.9	4.95	5.0
11	4.55	4.55	5.35	5.15	5.45	5.7	8.2	5.45	6.8	7.0	4.9	5.0
12	4.65	4.5	5.35	5.2	5.45	5.7	7.1	5.4	6.6	7.1	4.85	4.95
13	4.85	4.5	5.3	5.2	5.4	5.75	6.15	5.3	6.4	7.0	4.8	4.9
14	4.95	4.5	5.3	5.2	5.35	5.7	6.25	5.25	6.25	6.8	4.8	4.9
15	5.05	4.5	5.35	5.2	5.4	5.65	6.5	5.25	6.15	6.7	4.8	4.85
16	5.1	4.5	5.35	5.2	5.45	5.65	6.6	5.35	6.1	6.6	4.9	4.8
17	5.1	4.45	5.35	5.2	5.45	5.65	7.2	5.5	5.9	6.45	5.0	4.8
18	5.1	4.45	5.4	5.2	5.5	5.6	7.6	5.60	5.65	6.35	5.3	4.75
19	5.05	4.45	5.4	5.25	5.5	5.6	7.6	5.70	5.55	6.25	5.5	4.7
20	5.05	4.45	5.35	5.25	5.5	5.65	7.6	5.9	5.5	6.1	5.5	5.05
21	5.0	4.45	5.35	5.25	5.5	5.7	7.6	6.15	5.6	6.0	5.55	5.1
22	4.95	4.45	5.35	5.25	5.55	5.7	7.8	6.3	5.55	5.9	5.6	5.1
23	4.9	4.45	5.35	5.3	5.55	5.75	7.8	6.35	5.55	5.8	5.65	5.15
24	4.9	4.4	5.3	5.3	5.55	5.8	7.8	6.45	5.45	5.65	5.65	5.2
25	4.85	4.4	5.3	5.3	5.55	5.85	7.7	6.45	5.15	5.55	5.6	5.3
26	4.85	4.45	5.3	5.35	5.55	5.95	7.6	6.4	5.15	5.65	5.6	5.4
27	4.85	4.55	5.25	5.35	5.55	5.95	7.5	6.3	5.15	5.55	5.55	5.5
28	4.8	4.95	5.25	5.35	5.6	6.0	7.4	6.25	5.1	5.6	5.45	5.5
29	4.8	5.15	5.25	5.35		6.0	7.2	6.2	4.95	5.65	5.4	5.5
30	4.8	5.25	5.3	5.35		6.05	7.2	6.15	4.9	5.6	5.25	5.5
31	4.8		5.3	5.35		6.15		6.25		5.6	5.2	

Daily gage height, in feet, of Chippewa River near Winter, Wis.,  
for the years ending Sept. 30, 1912-1914.—(Concluded).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1913-14												
1.....	5.5	5.55	5.65	6.35	5.5	5.3	4.75	7.5	5.8	6.45	5.4	5.3
2.....	5.5	5.5	5.65	6.4	5.55	5.5	4.75	7.6	5.7	5.5	5.3	5.45
3.....	5.45	5.5	5.65	6.4	5.6	5.5	4.8	7.7	5.75	6.4	5.2	5.5
4.....	5.45	5.45	5.6	6.3	5.5	5.5	4.8	7.7	5.75	6.35	5.1	5.5
5.....	5.5	5.4	5.6	6.15	5.5	5.5	4.75	7.6	5.7	6.25	5.0	5.5
6.....	5.6	5.4	5.55	6.15	5.5	5.55	4.7	7.3	5.7	6.15	4.95	5.55
7.....	5.65	5.35	5.45	6.15	5.5	5.55	4.7	7.1	5.75	6.0	4.85	5.5
8.....	5.7	5.4	5.4	6.05	5.5	5.6	4.65	6.9	5.7	5.85	4.8	5.45
9.....	5.75	5.5	5.3	6.0	5.5	5.6	4.7	6.7	5.65	5.75	4.8	5.4
10.....	5.75	5.55	5.25	5.9	5.5	5.6	4.65	6.6	5.6	5.6	4.85	5.4
11.....	5.75	5.65	5.25	5.9	5.45	5.6	4.7	6.5	5.5	5.5	4.85	5.4
12.....	5.7	5.7	5.3	5.9	5.4	5.6	4.6	6.3	5.4	5.5	4.9	5.35
13.....	5.6	5.65	5.3	5.9	5.4	5.6	4.65	6.2	5.3	5.55	4.95	5.45
14.....	5.6	5.6	5.2	5.85	5.4	5.6	4.7	6.1	5.2	5.6	5.15	5.55
15.....	5.55	5.55	5.15	5.8	5.45	5.65	4.85	6.0	5.2	5.6	5.25	5.6
16.....	5.5	5.45	5.1	5.8	5.45	5.7	4.9	5.9	5.1	5.65	5.3	5.65
17.....	5.4	5.4	5.05	5.75	5.45	5.8	5.15	5.75	5.0	5.6	5.35	5.8
18.....	5.4	5.35	5.0	5.7	5.5	5.7	5.4	5.7	5.0	5.6	5.45	5.85
19.....	5.35	5.35	5.0	5.65	5.45	5.65	5.7	5.6	5.05	5.6	5.5	5.9
20.....	5.3	5.4	4.95	5.6	5.5	5.6	5.8	5.55	5.1	5.55	5.45	5.95
21.....	5.2	5.4	4.9	5.6	5.5	5.65	5.9	5.6	5.0	5.5	5.45	5.9
22.....	5.2	5.45	4.85	5.6	5.45	5.6	5.95	5.6	5.0	5.5	5.4	6.25
23.....	5.15	5.55	5.0	5.55	5.5	5.6	6.0	5.65	5.0	5.5	5.75	6.3
24.....	5.15	5.65	5.05	5.55	5.5	5.55	6.1	5.7	5.6	5.6	5.6	6.35
25.....	5.25	5.65	5.1	5.5	5.5	5.7	6.25	5.75	5.8	5.65	5.5	6.3
26.....	5.3	5.65	5.25	5.5	5.5	5.6	6.3	5.8	5.9	5.7	5.45	6.25
27.....	5.4	5.7	5.35	5.5	5.5	5.85	6.4	5.75	6.2	5.7	5.4	6.2
28.....	5.45	5.7	5.65	5.55	5.5	5.8	6.7	5.75	6.25	5.65	5.35	6.15
29.....	5.5	5.7	5.95	5.6	-----	5.8	7.1	6.0	6.3	5.6	5.3	6.05
30.....	5.55	5.7	6.15	5.6	-----	5.5	7.3	6.0	6.35	5.55	5.25	5.95
31.....	5.6	-----	6.35	5.55	-----	4.75	-----	5.9	-----	5.5	5.2	-----

(a) Drop caused by going out of ice.

NOTE.—Discharge relation probably affected by ice about Feb. 23 to Apr. 7, 1912, Nov. 28, 1912, to Apr. 12, 1913 and Dec. 21, 1913, to Apr. 10, 1914. Discharge relation affected by backwater from a log jam about Apr. 29, to May 12, 1914.

*Daily discharge, in second-feet, of Chippewa River near Winter, Wis.,  
for the years ending Sept. 30, 1912-1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1912</b>												
1								1,630	1,380	454	315	682
2								1,560	1,320	435	315	682
3								1,690	1,320	435	305	682
4								2,300	1,170	416	305	682
5								2,640	1,120	382	315	713
6								2,820	978	350	325	682
7								2,820	935	350	338	651
8							1,120	2,820	895	366	338	622
9							1,270	2,820	855	366	416	594
10							1,320	2,470	781	366	594	594
11							1,380	2,470	713	366	651	568
12							1,440	2,300	682	366	818	519
13							1,500	1,830	651	350	855	519
14							1,560	1,500	622	350	855	519
15							1,690	1,440	747	350	818	519
16							1,690	1,320	895	338	895	542
17							1,690	1,220	935	338	1,020	542
18							1,630	1,120	935	325	978	568
19							1,630	1,020	978	325	895	568
20							1,500	1,020	978	315	747	542
21							1,500	1,020	1,020	315	713	542
22							1,500	1,070	1,070	350	713	542
23							1,500	1,070	978	366	682	542
24							1,500	1,120	895	382	651	542
25							1,500	1,120	781	399	622	519
26							1,500	1,120	682	382	622	519
27							1,500	1,270	594	350	622	519
28							1,560	1,440	542	350	594	519
29							1,560	1,440	519	338	594	496
30							1,560	1,440	496	338	622	496
31								1,380		325	651	
<b>1912-13</b>												
1	496	475						2,820	1,900	542	935	651
2	475	454						2,470	2,060	519	935	622
3	475	435						2,060	1,980	594	855	682
4	475	416						1,830	1,900	978	818	747
5	454	416						1,560	1,760	1,220	747	713
6	435	399						1,440	2,470	1,500	713	682
7	435	399						1,320	2,820	1,830	651	651
8	416	399						1,170	3,000	2,140	622	622
9	416	399						1,070	3,000	2,470	622	594
10	416	399						978	2,820	2,820	568	594
11	399	399						895	2,640	3,000	542	594
12	435	382						855	2,300	3,190	519	568
13	519	382					1,630	781	1,980	3,000	496	542
14	568	382					1,760	747	1,760	2,640	496	542
15	622	382					2,140	747	1,630	2,470	496	519
16	651	382					2,300	818	1,560	2,300	542	496
17	651	366					3,380	935	1,320	2,060	594	496
18	651	366					4,160	1,020	1,070	1,900	781	475
19	622	366					4,160	1,120	987	1,760	935	454
20	622	366					4,160	1,320	935	1,560	935	622
21	594	366					4,160	1,630	1,020	1,440	978	651
22	568	366					4,570	1,830	978	1,320	1,020	651
23	542	366					4,570	1,900	978	1,220	1,070	682
24	542	350					4,570	2,060	895	1,070	1,070	713
25	519	350					4,360	2,060	682	978	1,020	781
26	519	366					4,160	1,980	682	1,070	1,020	855
27	519	399					3,960	1,830	682	978	978	935
28	496	380					3,760	1,760	651	1,020	895	935
29	496	380					3,380	1,690	568	1,070	855	935
30	496	380					3,380	1,630	542	1,020	747	935
31	496							1,760		1,020	713	

Daily discharge, in second-feet, of Chippewa River near Winter, Wis.,  
for the years ending Sept. 30. 1912-1914.—(Concluded).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1913-14												
1-----	935	978	1,070	-----	-----	-----	-----	3,000	1,220	2,060	855	781
2-----	935	935	1,070	-----	-----	-----	-----	3,190	1,120	2,140	781	895
3-----	895	935	1,070	-----	-----	-----	-----	3,280	1,170	1,980	713	935
4-----	895	895	1,020	-----	-----	-----	-----	3,280	1,170	1,900	651	935
5-----	935	855	1,020	-----	-----	-----	-----	3,190	1,120	1,760	594	935
6-----	1,020	855	978	-----	-----	-----	-----	2,820	1,120	1,630	568	978
7-----	1,070	818	895	-----	-----	-----	-----	2,640	1,170	1,440	519	935
8-----	1,120	855	855	-----	-----	-----	-----	2,300	1,120	1,270	496	895
9-----	1,170	935	781	-----	-----	-----	-----	2,140	1,070	1,170	496	855
10-----	1,170	978	747	-----	-----	-----	-----	1,980	1,020	1,020	519	855
11-----	1,170	1,070	747	-----	-----	-----	454	1,830	935	935	519	855
12-----	1,120	1,120	781	-----	-----	-----	416	1,690	855	935	542	818
13-----	1,020	1,070	781	-----	-----	-----	435	1,690	781	978	568	895
14-----	1,020	1,020	713	-----	-----	-----	454	1,560	713	1,020	682	978
15-----	978	978	682	-----	-----	-----	519	1,440	713	1,020	747	1,020
16-----	935	895	651	-----	-----	-----	542	1,320	651	1,070	781	1,070
17-----	855	855	622	-----	-----	-----	682	1,170	594	1,020	818	1,220
18-----	855	818	594	-----	-----	-----	855	1,120	594	1,020	895	1,270
19-----	818	818	594	-----	-----	-----	1,120	1,020	622	1,020	935	1,320
20-----	781	855	568	-----	-----	-----	1,220	978	651	978	895	1,380
21-----	713	855	-----	-----	-----	-----	1,320	1,020	594	935	895	1,320
22-----	713	895	-----	-----	-----	-----	1,380	1,020	594	935	855	1,760
23-----	682	978	-----	-----	-----	-----	1,440	1,070	594	935	1,170	1,830
24-----	682	1,070	-----	-----	-----	-----	1,560	1,120	1,020	1,020	1,020	1,900
25-----	747	1,070	-----	-----	-----	-----	1,760	1,170	1,220	1,070	935	1,830
26-----	781	1,070	-----	-----	-----	-----	1,830	1,220	1,320	1,120	895	1,760
27-----	855	1,120	-----	-----	-----	-----	1,980	1,170	1,690	1,120	855	1,690
28-----	895	1,120	-----	-----	-----	-----	2,470	1,170	1,760	1,070	818	1,630
29-----	935	1,120	-----	-----	-----	-----	2,820	1,440	1,830	1,020	781	1,500
30-----	978	1,120	-----	-----	-----	-----	3,000	1,440	1,900	978	747	1,380
31-----	1,020	-----	-----	-----	-----	-----	-----	1,320	-----	935	713	-----

NOTE:—Daily discharge computed from a rating curve well defined between 350 and 2,140 second-feet (gage heights 4.4 and 6.5 feet). Daily discharge, Apr. 29, to May 12, 1914, estimated on account of backwater from log jam.

Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records as follows: Dec. 21—31, 1913, 530 second-feet; Jan. 1—10, 1914, 507 second-feet; Jan. 11—20, 399 second-feet; Jan. 21—31, 353 second-feet; Feb. 1—10, 280 second-feet; Feb. 11—20, 238 second-feet; Feb. 21—28, 240 second-feet; Mar. 1—10, 245 second-feet; Mar. 11—20, 265 second-feet; Mar. 21—31, 329 second-feet; and Apr. 1—10, 406 second feet.



Monthly discharge of Chippewa River near Winter, Wis.,  
for the years ending Sept. 30, 1912-1914.

[Drainage area, 775 square miles.]

Month	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accu- racy.
	Maximum	Minimum	Mean	Per square mile.		
1912						
April (8—30).....	1,690	1,120	1,500	1.94	1.66	A
May.....	2,820	1,020	1,690	2.18	2.51	B
June.....	1,380	496	882	1.14	1.27	A
July.....	454	315	363	.468	.54	A
August.....	1,020	305	619	.799	.92	B
September.....	713	496	574	.741	.83	B
1912—13						
October.....	651	399	517	.667	.77	B
November.....			389	.502	.56	B
December.....						
January.....						
February.....						
March.....						
April (13—30).....	4,570	1,630	3,590	4.63	3.10	C
May.....	2,820	747	1,490	1.92	2.21	A
June.....	3,000	542	1,590	2.05	2.29	A
July.....	3,190	519	1,640	2.12	2.44	A
August.....	1,070	496	780	1.01	1.16	B
September.....	935	454	665	.858	.96	B
1913—14						
October.....	1,170	682	926	1.19	1.37	A
November.....	1,120	818	965	1.25	1.40	A
December.....			712	.919	1.06	
January.....			418	.539	.62	
February.....			254	.328	.34	
March.....			281	.363	.42	
April.....	3,000		1,010	1.30	1.45	C
May.....	3,280	978	1,770	2.28	2.63	C
June.....	1,900	594	1,030	1.33	1.48	B
July.....	2,140	935	1,210	1.56	1.80	A
August.....	1,170	496	750	.968	1.12	B
September.....	1,900	781	1,210	1.56	1.74	A
The year.....	3,280		881	1.14	15.43	

CHIPPEWA RIVER NEAR BRUCE, WIS.

**Location.**—At the Minneapolis, St. Paul & Sault Ste-Marie Railroad bridge, 1 mile east of Bruce, Wis. Thornapple River enters from the right immediately above the station and the Flambeau River from the right about 21 miles below.

**Records available.**—December 31, 1913, to September 30, 1914.

**Drainage area.**—1,380 square miles.

**Gage.**—Chain gage attached to downstream side of Minneapolis, St. Paul & Sault Ste Marie Railroad bridge; read twice daily, morning and evening, to quarter tenths; limits of use: hundredths below 3.0 feet, half tenths between 3.0 and 4.0 feet, and tenths above 4.0 feet.

**Control.**—Bed of river hard sand, free from vegetation; probably shifts only in high water.

**Discharge measurements.**—Made from downstream side of bridge to which gage is attached.

**Winter flow.**—Discharge relation affected by ice flow determined from discharge measurements made through the ice.

**Regulation.**—Practically none; no large power plants above station, and at present no logging operation of sufficient magnitude to affect flow of river at this point.

**Accuracy.**—Records excellent.

Discharge measurements of Chippewa River at Bruce, Wis., during the year ending Sept. 30, 1914.

Date	Made by	Gage height	Discharge
1914		Feet	Sec-feet
December 31 (a)	H. C. Beckman	2.48	597
January 29 (a)	H. C. Beckman	2.75	549
March 5 (a)	O. A. Steller	2.73	405
April 11 (b)	G. H. Canfield	2.21	1,050
April 21	M. F. Rather	4.90	3,620
May 5	M. F. Rather	6.97	5,820
June 9	M. F. Rather	3.41	2,170
September 15	M. F. Rather	5.06	3,600

(a) Measurement made under complete ice cover.  
(b) River clear of ice.

Daily gage height, in feet, of Chippewa River near Bruce, Wis., for the year ending Sept. 30, 1914.  
[H. C. Gardner, observer.]

	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1				2.48	2.68	2.75	3.85	8.8	3.5	5.8	2.76	2.78
2				2.48	2.68	2.75	3.95	7.8	3.25	5.6	2.58	2.93
3				2.48	2.68	2.78	3.85	7.1	3.3	5.1	2.51	2.99
4				2.50	2.60	2.78	3.55	7.0	5.0	4.7	2.32	2.96
5				2.48	2.60	2.80	3.2	7.0	6.1	4.3	2.22	2.90
6				2.48	2.60	2.80	2.82	6.6	5.1	3.8	2.14	2.85
7				2.48	2.60	2.80	2.62	6.2	4.6	3.75	2.06	2.76
8				2.52	2.62	2.82	2.45	5.8	4.0	3.5	2.01	2.69
9				2.55	2.65	2.85	2.30	5.4	3.6	3.2	1.96	2.68
10				2.52	2.65	2.85	2.26	5.0	3.3	3.0	1.98	2.68
11				2.50	2.65	2.85	2.26	4.8	2.98	2.84	1.99	2.82
12				2.48	2.65	2.85	2.25	4.5	2.72	2.79	1.94	2.90
13				2.40	2.65	2.88	2.45	4.2	2.62	3.75	1.99	2.94
14				2.40	2.65	2.92	2.70	4.0	2.42	4.0	2.10	3.8
15				2.45	2.65	2.98	3.05	3.75	2.64	3.55	2.15	5.0
16				2.45	2.65	3.08	3.4	3.55	2.56	3.3	2.22	4.7
17				2.48	2.65	3.18	3.65	3.35	2.35	3.1	2.32	4.3
18				2.50	2.65	3.18	3.8	3.2	2.20	2.95	2.56	4.2
19				2.55	2.65	3.08	4.2	3.05	2.34	3.05	2.82	4.0
20				2.58	2.65	3.00	5.0	2.88	2.36	2.98	2.82	3.8
21				2.52	2.65	2.95	5.0	3.05	2.30	2.82	2.82	3.65
22				2.52	2.65	2.90	4.9	3.2	2.40	2.72	2.76	4.2
23				2.52	2.68	2.88	4.7	3.3	3.45	2.85	3.1	5.2
24				2.50	2.70	2.90	4.5	3.2	4.8	3.0	3.8	5.0
25				2.48	2.70	3.05	5.3	3.2	6.7	2.94	3.45	4.7
26				2.48	2.70	3.15	5.8	3.15	6.4	2.91	2.85	4.5
27				2.52	2.70	3.15	6.0	3.1	7.4	2.95	2.66	4.2
28				2.55	2.75	3.40	6.7	3.1	8.8	3.5	2.65	3.9
29				2.75		3.70	8.5	3.8	7.9	3.3	2.64	3.65
30				2.72		3.92	9.3	4.6	6.4	3.05	2.50	3.55
31				2.72		4.10		4.1		2.92	2.46	

NOTE.—Discharge relation affected by ice about December 31, 1913, to April 5, 1914.

Daily discharge, in second-feet, of Chippewa River near Bruce, Wis.,  
for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1								8,000	2,210	4,530	1,530	1,550
2								6,800	1,970	4,310	1,370	1,740
3								6,000	2,020	3,760	1,300	1,740
4								5,880	3,660	3,360	1,140	1,710
5								5,880	4,860	2,970	1,060	1,660
6							1,580	5,420	3,760	2,500	1,000	1,610
7							1,400	4,970	3,260	2,450	935	1,530
8							1,250	4,530	2,680	2,210	898	1,470
9							1,120	4,090	2,300	1,920	862	1,460
10							1,090	3,660	2,020	1,740	876	1,460
11							1,090	3,460	1,730	1,600	883	1,580
12							1,080	3,160	1,490	1,560	848	1,660
13							1,250	2,880	1,400	2,450	883	1,690
14							1,480	2,680	1,230	2,680	965	2,500
15							1,790	2,450	1,420	2,260	1,000	3,660
16							2,120	2,260	1,340	2,020	1,060	3,360
17							2,350	2,070	1,170	1,840	1,140	2,970
18							2,500	1,920	1,040	1,700	1,350	2,880
19							2,880	1,790	1,160	1,790	1,580	2,680
20							3,660	1,640	1,180	1,730	1,580	2,500
21							3,660	1,790	1,120	1,580	1,580	2,350
22							3,560	1,920	1,210	1,490	1,530	2,880
23							3,360	2,020	2,160	1,610	1,840	3,870
24							3,160	1,920	3,460	1,740	2,500	3,660
25							3,980	1,920	5,540	1,690	2,160	3,360
26							4,530	1,880	5,190	1,660	1,610	3,160
27							4,750	1,840	6,340	1,700	1,440	2,880
28							5,540	1,840	8,000	2,210	1,430	2,590
29							7,640	2,500	6,920	2,020	1,420	2,350
30							8,600	3,260	5,190	1,790	1,300	2,260
31								2,780		1,670	1,260	

NOTE.—Daily discharge computed from a rating curve well defined between 890 and 5,880 second-feet (gage heights, 2.0 and 7.0 feet). Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements, and climatologic records, as follows: December 31, 597 second-feet; January 1-10, 593 second-feet; January 11-20, 577 second-feet; January 21-31, 553 second-feet; February 1-10, 472 second-feet; February 11-20, 352 second-feet; February 21-28, 358 second-feet; March 1-10, 411 second-feet; March 11-20, 554 second-feet; March 21-31, 740 second-feet; and April 1-5, 1,200 second-feet.

Monthly discharge of Chippewa River near Bruce, Wis.,  
for the year ending Sept. 30, 1914.  
[Drainage area, 1,380 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
January			574	0.416	0.48	C
February			397	.288	.30	C
March			574	.416	.48	D
April	8,600	1,080	2,710	1.96	2.19	B
May	8,000	1,640	3,330	2.41	2.78	A
June	8,000	1,040	2,900	2.10	2.34	A
July	4,530	1,490	2,210	1.60	1.84	A
August	2,500	848	1,300	.942	1.09	A
September	3,870	1,460	2,360	1.71	1.91	A

**CHIPPEWA RIVER AT CHIPPEWA FALLS, WIS.**

**Location.**—At the highway bridge at Chippewa Falls, Wis., 2,500 feet below the mouth of Duncan Creek coming in from the right.

**Records available.**—June 22, 1888, to September 30, 1914. Records from 1899 to 1912 published also in Water-Supply Papers Nos. 207, 245, 265, 285, 305, and 325. The gage was originally established by the Chippewa Lumber & Boom Co., which has kept a continuous record since 1899. Since 1904 the United States Weather Bureau has obtained gage heights during the flood season of each year. On June 1, 1906, the United States Geological Survey began making discharge measurements and obtained gage heights when no record was obtained by the Weather Bureau. The gage heights as they have been published have been obtained from the following sources: June 22, 1888, to November 21, 1889, from certified blue print copies of gage heights as kept by the Chippewa Lumber & Boom Co., furnished by Fargo Engineering Co.; March to September, 1905, 1907, and 1908, United States Weather Bureau; April to July, 1909, Chippewa Lumber & Boom Co.; October 1 to December 31, 1911, United States Geological Survey; January to June, 1912, Chippewa Lumber & Boom Co.; March to July, 1912, United States Weather Bureau; December, 1912, Chippewa Valley Railway, Light & Power Co.; January 1, 1913, to date, United States Geological Survey.

**Drainage area.**—5,600 square miles.

**Gage.**—Friez recording water stage register, installed during January, 1914, fastened to the web between the two piers supporting first right-hand span and about 10 feet upstream from the former United States Weather Bureau gage; gage referred to the original datum. Prior to installation of this recording gage the readings were taken from a painted staff gage on the cylindrical pier at the right end of bridge. On August 19, 1913, the gage was found in error by the following amounts:

Point of Gage		Error
Feet	Inches	Feet
27	3.1	+.03
26	4.2	+.03
16	10.2	+.12
12	0.0	+.15
7	1.0	+.12
2	2.0	+.12

Error has probably existed since the gage was painted on the pier, but the precise date can not be determined. It should be noted that any error in the gage on the pier enters into the gage heights of discharge measurements as well as the daily gage heights.

**Control.**—Probably permanent.

**Discharge measurements.**—Made from downstream side of bridge.

**Floods.**—On December 6, 1896, the river reached a stage of 26.03 feet; on September 10, 1884, a stage of 26.94 feet, according to high-water marks on the door of the office of the Chippewa Lumber & Boom Co.

**Winter flow.**—Discharge relation at times affected by ice; the flow during such periods determined by discharge measurements.

**Regulation.**—Some fluctuation is caused by the operation of a power plant about one-half mile above the dam. The greatest fluctuation is, however, caused by the operation of larger plants above, notably the Brunet Falls Manufacturing Co., at Cornell, Wis.

**Accuracy.**—Records for 1914 excellent; those for previous years, owing to fluctuations in stage, possible error in gage datum, and little supervision of gage readings, less accurate, but as the discharge relation is permanent, all records are believed to be at least good.

**Cooperation.**—The Wisconsin & Minnesota Light & Power Co. has assisted in the installation and maintenance of the recording gage installed during January, 1914. Note other cooperation under "Records available."

*Discharge measurements of Chippewa River at Chippewa Falls, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	(a) Gage height	Discharge
		Feet	Sec.-feet
Dec. 20 (b) .....	G. H. Canfield .....	0.99	2,340
Jan. 27 (b) .....	Hoyt and Steller .....	.85	2,040
Mar. 15 (c) .....	G. H. Canfield .....	1.35	2,350
April 22 .....	W. G. Hoyt .....	4.91	12,700
May 6 .....	M. F. Rather .....	5.54	15,500
June 7 .....	Canfield and Rather .....	7.48	21,700
Sept. 7 .....	H. C. Beckman .....	2.21	5,380
Sept. 8 .....	H. C. Beckman .....	2.01	4,710

(a) Gage heights refer to recording gage. See "Gage" in station description.

(b) Measurement made at bridge section, partly from bridge and partly from ice. Nearly complete ice cover one mile below gage; partly open at control section.

(c) Measurement made under complete ice cover one mile below gage.

*Daily gage height, in feet, of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1888</b>												
1										3.3	2.6	1.6
2										5.0a	1.8	
3										2.8	2.2	1.5
4										2.6	3.0	1.5
5										2.1		1.5
6										2.5	5.2	1.5
7										2.7	5.3	1.5
8										3.0	5.1	1.5
9										3.4	5.0	
10										3.1	5.7	1.5
11										6.7a	5.3	1.5
12										2.8		1.5
13										1.7	4.7	1.5
14										1.4	4.3	1.5
15											4.1	1.5
16										1.7	3.7	
17										1.9	3.4	1.5
18											3.4	1.5
19										8.2a		1.5
20											5.9a	1.5
21										2.5	2.7	1.5
22									7.8		2.3	1.5
23									7.0	1.7	2.1	
24										1.7	2.0	2.3
25									5.8	1.9	2.0	1.8
26									5.2	1.8		
27									4.6	1.7	1.8	1.5
28									4.1	1.7	1.8	1.5
29									4.0	1.7	1.8	1.3
30									3.7	2.0	1.7	
31										4.9a	1.7	
<b>1888-89</b>												
1	1.9						2.2	3.0	4.3	2.9	.8	.8
2	1.5						2.1	3.1	1.0	3.6	.9	.9
3	1.4						1.9	3.3	2.0	3.5	.8	.9
4	.8						1.5	3.1	3.3			.9
5	1.3						1.7		3.9	6.2a	.8	6.2a
6	1.0						1.8	3.3	4.2	3.9	.9	.6
7								3.6	7.0a		.8	.5
8	1.5						1.9	7.4a	3.8	2.8	.8	.5
9	1.4	7.0a					5.8a	4.1		.9	.7	.7
10	1.4	1.8					2.3	2.5	1.5	1.0	.8	.8
11	1.4	1.8					1.5	5.0	3.9	1.0		.8
12	1.4	1.8					1.7		2.8	1.8	1.0	.8
13	1.0						2.0	4.6	3.1	2.1	1.0	.8
14								7.8a	3.0			.8
15	1.8						2.5	4.7	3.2	5.2a	.9	
16	1.5						2.7	1.8		2.5	.8	5.2a
17	1.3						2.4	4.5	3.9	.6	.8	1.0
18	1.0						2.5	5.9	3.3	.6	.7	1.0
19	2.2						2.5		3.5	.8	3.9a	.8
20	1.8						6.6a	5.9	3.8	.8	1.6	.9
21							3.0	7.7a	6.0a		1.6	.9
22	1.8						1.5	6.0	4.3	1.0	1.0	
23	1.8						2.2	4.0	2.5	1.0	1.0	.9
24	1.8						3.5	2.4	4.0	1.1	.9	1.0
25	1.5						3.7	4.6	4.4	1.0		.9
26							4.0	4.5	4.6	1.1	5.0a	.8
27							4.4	4.2	4.6	1.0	1.5	1.0
28								3.5	7.0a	.6	.3	1.0
29	1.8					2.8	4.1	3.5	5.0	3.4a	.6	
30	1.8					2.7	3.0			.6	.8	1.0
31	1.5							5.1a		.8	.8	

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1889-90												
1	1.0	-0.2						3.2		0.7	1.0	1.4
2	1.0							3.3	4.8	1.5	1.0	1.4
3	.8							3.0	4.9	2.4		.9
4	.9						3.2	2.4	4.9		.8	2.2
5	.8						2.5	4.2a	5.3	2.1	.8	4.2
6								4.4	6.7	2.1	.8	4.6
7	.7						3.0	.8	7.0	2.0	.8	
8	.6						4.8	1.4	6.8	2.0	.8	4.7
9	.6						6.3	1.5	6.8	2.0	1.0	4.6
10	.6						6.7	4.7a	6.0	2.0	5.5	4.2
11	.5						7.3	1.5	6.4	1.0	5.5	4.3
12	.5						8.4	.5	6.0	4.3a	5.2	2.5
13							9.0	.8	5.8		4.8	1.4
14	.6						8.9	1.8	5.0	1.0	2.7	
15	.5						8.4	1.9		1.0	2.3	2.0
16	.6						7.2	1.8	4.1	2.2	2.9	2.0
17	.6						6.5	4.5a	4.0	3.6		1.9
18	.5						6.5	1.7	3.4	3.2	2.1	1.9
19	.5						6.3	1.0	3.0	5.1a	2.0	2.0
20							5.6	2.1	2.8		2.1	3.0
21	.5						5.5	3.4	2.5	1.0	3.4	4.0
22	.5						5.5	4.0		1.0	3.3	4.0
23	.5						5.3	4.6	2.1	1.0	3.0	3.5
24	.5						5.3	7.5a	2.1	1.5		3.0
25	.4						5.0		4.5a	1.6	2.1	2.5
26	.3						5.3	5.7	1.5	4.1a	2.4	2.3
27							5.1	6.2	.9		2.4	5.5a
28	.3						4.4	5.0	.9	1.0	2.4	
29	.0						4.4	5.0		1.0	3.6a	1.8
30	.0						3.6	4.4	.7	1.0	2.9	1.1
31	.0							6.9a		1.0		
1890-91												
1	1.4	1.1						5.6	.5	1.3	.0	.0
2	1.4	1.1						4.6	1.0	1.4		.4
3	1.2	1.1							1.1	1.4	.5	.3
4	1.2	1.0						4.0	1.6	1.0	.9	-.3
5	1.2	2.3						4.6a	2.0	1.1	.9	-.3
6	1.2	1.7						3.5	1.4	1.1	.8	2.3a
7	1.0	1.1						2.3		.9	.7	.4
8	1.1	.8						1.6	1.9	.9	.9	.0
9	1.0							2.5	1.9	.9		.0
10	1.0	.7						2.5	1.9	.9	.4	.0
11	.8							2.5	2.0	4.8a	.4	.0
12								2.4	2.3		.3	.0
13	1.4						3.3	6.4a	2.5	.0	.3	
14	3.0						4.4	1.9		.0	.3	.0
15	4.6						5.5	2.1	2.0	.0	.0	.0
16	4.8						6.1	1.5	2.1	.0		.1
17	7.1a						7.3		1.8	.0	.0	.1
18	4.6						7.4					

## Railroad Commission Report

*Daily gage height, in feet, of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1891-92</b>												
1	-0.2						1.0	.2	5.0	6.8	2.8	0.3
2	-.1	0.4					2.0	2.2	4.6	5.2	2.3	.2
3	.1	.4					5.3	3.0	4.0	6.2	2.2	.2
4	.2	.4					6.0	4.0	4.1	6.0	2.0	1.3
5	.3	.4					7.0	4.2	3.5	5.8	.8	.3
6	1.1	.4					6.7	4.5	3.3	4.8	5.6a	.4
7	1.3	.4					7.2	4.7	4.2	4.1	0.0	.3
8	.5						6.5	5.1	5.5	3.2	.6	.4
9	.2	.4					5.5	4.1	5.5	3.8	.9	.5
10	.5	.4						5.1	5.0	1.0	.9	.6
11	.6	.4					4.3	4.6	4.8	2.2	.9	.9
12	.8	.3					2.0	4.8	4.2	.7	1.3	1.0
13	1.0	.3					2.5	5.1	4.0	1.5	1.3	1.2
14	.9	.2					2.1	5.2	3.8	1.6	.5	.8
15	.8						2.0	5.2	3.2	2.0	.7	1.2
16	.7	.2					1.9	6.2	3.4	6.7a	.8	1.0
17	5.3a							6.5	4.8	.2	.8	1.0
18							1.8	6.8	5.8	.5	.5	.8
19	.6						1.6	6.5	5.7	1.8	.5	1.0
20	.6						1.2	9.8	5.8	2.0	2.8a	.8
21	1.2						1.6	11.2	5.7	1.8	.0	.7
22	.8						2.0	10.9	5.2	.8	.0	.5
23	.2						5.9a	9.8	5.0	6.0a	.0	.5
24	.2						.5	7.8	4.8	.5	.0	.5
25							.8	7.2	4.0	.5	.0	.2
26	.3						1.0	6.6	3.3	.6	2.2a	.3
27	.3						1.1	6.2	6.9	.8	.3	.3
28	.4						2.1	5.7	9.4	3.4	.2	.3
29	.4						2.2		9.2	4.4	.2	.3
30	.4						5.9a	5.5	8.2	4.0	.2	.3
31	4.8a							5.7		3.2	.2	
<b>1892-93</b>												
1	0.2	0.3						7.2	4.3	5.9a	0.5	0.4
2	.2	.3						7.5	3.7	.1	.5	.3
3	.2	.3					2.8	8.0	2.9	.2	1.1	.3
4	.2	.3					3.1	8.0	3.0	.2	.8	.3
5	.1	.3					3.7	7.3	2.9	1.2	.5	.2
6	.1	.3					4.3	6.2	3.8	1.8	.7	.4
7	.1	.3					4.4	5.3	3.6	2.1	1.5	.4
8	.1	.2					4.6	6.2	6.1a	2.1	.8	.4
9	.0	.2					4.7	5.7	1.8	2.8	.8	.2
10	.1						5.6	6.2	1.8	2.2	.4	.2
11	.1						5.8	8.3	1.6	5.4a	.5	.2
12	.1						6.5	11.7	1.6	.3	.4	.2
13	.1						7.6	11.8	2.5	.8	.3	.2
14	.1						8.2	10.7	1.8	2.7	.3	.2
15	.1						7.2	9.8	1.8	2.7	.2	.2
16	.1						6.3	9.2	5.6a	2.4	.2	.2
17	.1						5.8	7.8	.0	2.3	.2	.2
18	.2						5.0	7.3	.5	2.4	.2	.3
19	.2						5.2	6.2	1.5	1.8	.2	.3
20	.3						5.2	6.1	1.5	1.8	.2	.2
21	.3						5.0	4.3	1.6	1.8	.2	.2
22	.3						5.1	4.8	2.5	3.8a	.2	.1
23	.3						4.3	4.7	2.0	.5	.2	.1
24	.3						3.8	5.8	5.7a	.5	.3	.1
25	.4						4.2	7.0	.0	.2	.3	.1
26	.5						5.3	8.2	1.5	.2	.4	.1
27	.4						7.4	7.8	2.1	.4	.4	.1
28	.3						9.1	6.3	2.6	.6	.5	.1
29	.3						8.8	7.2	2.6	.5	.5	.1
30	.3						8.7	5.8	2.5	.5	.5	.1
31	.3							7.5a		.5	.5	



Daily gage height, in feet, of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1893-94</b>												
1	0.0	0.1						4.5	2.9	1.2	0.0	0.2
2	.0						2.7	5.5	4.8a	1.2	.3	.2
3	.0						2.2	5.8	1.2	1.1	.3	.2
4	.0						3.2	7.0	1.3	.8	.3	.2
5	.2					2.3	3.2	7.7	2.5	.7	.8	.2
6	.2					2.7	3.8	8.2	3.7	.7	.4	.2
7	.6					2.8	3.7	8.3	1.2	.7	.4	.2
8	.6	.2				3.3	4.0	8.2	2.0	.7	.6	.2
9	2.0	.2				3.8	3.8	7.0	4.3a	.7	.5	.0
10	1.8	.1				3.3	3.9	6.2	1.6	.7	.5	.2
11	1.7	.1					3.8	5.8	1.4	.7	.5	.2
12	1.2	.1				2.9	3.8	5.5	1.3	.7	.2	.2
13	1.2	.1				2.8	3.9	5.8	1.2	.6	.5	.2
14	1.0	.1				3.0	4.7	6.8	1.2	.5	.4	.2
15	1.0	.1				3.1	4.9	7.3	1.2	.5	.4	.2
16	.8	.1				2.8	6.1	14.0b	6.6a	.4	.3	.2
17	.2	.0				3.3	6.8	11.7	.0	.3	.3	.2
18	.1	.0					7.8	10.8	1.2	.3	.3	.2
19	.2	.0				5.1	8.9	10.2	1.2	.3	.3	.2
20	.1	.0				5.7	10.2	8.3	1.3	.3	.3	.2
21	7.0a	.1				6.8	10.4	7.3	1.8	.2	.2	.2
22	.0	.0				7.7	10.2	6.3	1.8	.2	.3	.3
23	.0					7.3	9.0	5.2	1.8	.2	.2	.2
24	.0					7.2	7.6	4.8	1.8	.2	.2	.4
25	.2						7.2	4.7	1.8	.2	.0	.4
26	.2					3.5	6.5	4.2	1.8	.2	.3	.3
27	.1					3.2	5.8	4.0	2.0	.2	.2	.3
28	6.5a					3.8	4.9	3.7	1.8	.2	.2	.3
29	.0					3.5	4.7	3.6	1.5	.1	.2	.3
30	.0					3.1	5.2	3.3	1.5	.0	.2	.0
31	.0					3.2		3.1		.0	.2	
<b>1894-95</b>												
1	.0	1.2					.8	2.0	6.0a	1.2	1.2	-.5
2	.0	1.4					.5	1.9	.0	1.3	.2	-.5
3	.1	1.4					.5	2.0	3.1	2.1	5.5a	.2
4	.2	1.4					.5	3.5	3.6	2.1	.0	3.0a
5	.0	1.3					.5	4.2	4.0	.7	.0	2.8
6	.0	1.4					.4	4.0	3.2	5.1a	.2	2.5
7	.0	1.4						3.8	2.5	1.1	.3	2.5
8	.1	1.5					1.0	3.7	5.1a	1.5	.3	
9	.2	1.5					1.6	3.8	.7	1.2	.3	.2
10	.2	1.5					1.1	3.5	2.5	.8	1.0	.2
11	.2	1.3					1.2	3.2	3.4	1.8		.2
12	.2	.8					1.6	6.4	6.2	2.4	1.8	.2
13	.2	.8					1.8	5.8	6.8	5.3a	1.5	.2
14	.2	.6					1.3	5.6	5.2		1.4	.2
15	.2	.6					.5	4.8	6.2	2.5	1.4	
16	.0	.5					1.0	4.4		2.4	5.5a	.2
17	.0	.3					.8	3.6	4.3	2.8	.8	.2
18	.1	.3					1.2	3.2	3.2	2.8	.2	.3
19	.1	.3					.8	2.6	4.2	2.8	.5	.8
20	.0						.4	6.2a	2.2	2.8	.2	.8
21	.0						.4	1.6	1.6	2.3	.3	1.0
22	.1						.4	2.1	5.1a	2.5	1.3a	1.7
23	.2						1.0	2.0		2.7	.3	4.7
24	.2						.5	1.8	2.2	2.8	.3	5.9
25	.6						.5	6.2a	2.4	2.1	.4	5.7
26	.9						.7	.2	3.2	2.1	.5	4.8
27	.7						4.3a	.8	2.5	3.8a	.4	3.8
28	.9							1.2	2.0	.2	.4	2.3
29	1.5						.2	1.5	5.8a	1.1	.2	2.3
30	.8						1.4	1.1	1.2	1.5	-.4	2.3
31	1.1							1.6		1.3	-.5	

*Daily gage height, in feet, of Chippewa River at Chippewa Falls, Wis., for the years ending Sept. 30, 1888-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1895-96</b>												
1	1.2	0.0						6.8	3.6	2.0	1.5	0.8
2	.8	-.3						6.5	4.2	5.2a		.8
3	1.1	-.3						7.5	4.0	.8	1.5	.8
4	1.2	-.3						8.0	3.0	2.0	1.5	.8
5	.9	.1						7.2	3.0	2.0	1.5	.8
6	.8	.2						6.5	2.9	2.8	1.5	
7	.8	.2						5.8	5.6a	2.8	1.3	.1
8	.8	.2						5.8	3.8	2.2	1.3	2.4
9	.7	.2						3.8	5.3	4.8a		1.4
10	.2							4.1	6.0	1.8	3.9a	1.2
11	4.8a	.2						5.1	5.1	2.0	2.0	1.0
12	.5	.2						3.8	4.3	1.5	1.8	1.8
13		.2					4.6	3.8	5.0a	1.5	2.5	
14	.3	.2					7.8	4.8	4.8a	1.2	2.6	1.2
15	.3	.2					9.5	5.9		1.8	1.9	1.5
16	.4	.0					10.7	7.8	3.0	2.3		.8
17	.3	.0					11.0	6.5	4.0	2.3	.5	.0
18	.2						11.2	7.2	4.0	4.5	.5	.5
19	.3	-.2					12.0	7.6	4.0	1.5	.5	.8
20	.3						11.9	7.2	6.0a	1.6	.5	
21	.2						11.2	7.2	3.5	1.2	.0	1.4
22	.2						9.6	4.8	3.2	1.2	1.2	1.2
23	.2						8.5	5.2	2.8	1.6		1.0
24	.2						7.5	4.8	3.2	1.5	.8	1.1
25	.2						7.3	4.1	4.0	2.2	.8	1.1
26	.2						7.2	4.5	4.2	1.5		2.0a
27							7.0	4.2	5.5a	1.7	.9	
28	.2						7.5	4.0	2.2	1.3	.9	1.0
29	.1						7.0	3.9	2.0	1.3	1.0	.8
30	.0						7.0	5.8	2.2	1.5		.8
31	.2							3.0		1.3	1.0	
<b>1896-97</b>												
1	.8		21.2				13.8	5.8	2.5	4.5	5.0	1.0
2	.8	4.0	22.4				17.0	5.3	2.8	4.0	4.5	1.0
3	.8	4.1	23.8				15.2	4.8	5.2	3.2	4.0	1.8
4		3.8	24.5				10.5	4.2	7.0	4.0	4.0	1.8
5	.8	3.5	23.0				10.6	3.8	8.8a	3.2	3.8	1.8
6	.8	3.5	20.0				10.5	3.8	6.0	3.0	3.0	1.8
7	1.0		19.6				9.3	3.0	5.5	3.0	3.0	1.8
8	1.0		17.5				8.5	3.2	5.8	2.5	2.8	1.8
9	1.0	3.8					7.8	2.8	5.0	1.2	2.8	6.0a
10	.8	3.0					7.2	3.2	5.2	3.1a	2.5	1.5
11		2.5					6.5	3.5a	5.5	1.0	2.2	1.5
12	.5	2.0					6.2	2.8	5.4	2.0	2.2	.3
13	.5						5.8	3.2	4.5	2.0	2.2	1.8
14	.8						5.8	3.2	4.3	1.2	2.2	2.0
15	.5						6.0	5.4a	4.0	1.5	3.0	2.2
16	.8						6.5	2.8	5.8a	1.2	1.5	2.0
17							6.5	2.0	4.3	1.2	1.7	1.5
18							6.0	2.5	7.2	.8	1.5	1.5
19	1.0						6.0	2.5	7.5	1.5	1.5	1.5
20	1.0					8.5	5.6	4.2	6.3	1.2	1.5	1.5
21	1.0					8.3	5.2	6.0	6.0	1.5	5.2a	1.5
22	1.0					8.5	5.0	7.6a	4.5	1.2	1.2	1.5
23	1.0					8.7	5.2	5.0	4.5	1.8	1.5	1.3
24	.8					9.3	5.3	5.2	4.4	1.8	1.3	1.2
25	.8					8.8	5.0	5.2	4.1	1.8	1.5	1.2
26	.8					9.0	4.6	5.2	3.8	2.2	1.2	.5
27	.8	13.7				8.5	4.7	4.8	2.8	5.8	1.2	.5
28	.8	13.7				8.8	4.3	4.2	2.8	7.2	1.2	1.9
29	.8	10.5				9.7	4.8	6.0a	3.5	6.5	.5	1.0
30	2.0	16.0				11.1	5.7	1.5	4.2	6.5	.5	1.0
31	2.5					13.8		2.0		5.2	1.0	

*Daily gage height, in feet, of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept
<b>1897-98</b>												
1	1.2	1.2					3.8	2.8	3.8	3.2	1.0	1.0
2	1.2	1.2					3.5	2.8	3.8	3.2	1.0	1.0
3	1.0	1.2					3.2	3.8	3.3	3.2	1.0	1.0
4	1.2	1.2					3.0	4.0	6.2a	3.2	1.0	.5
5	1.0	1.2					2.8	3.8	1.2	3.2	1.0	.5
6	1.7	1.2					2.5	3.5	2.0	3.2	1.0	.8
7	1.5	1.2					2.0	5.3a	1.5	3.2	2.6a	.8
8	1.0	1.2					2.0	1.8	3.0	4.0	1.2	1.0
9	3.3a	1.2					2.0	1.5	3.8	5.3a	1.0	.5
10	.8	1.2					2.0	3.0	3.0	1.7	.8	.5
11	.8	1.2					2.0	3.0	6.4a	2.0	.5	.5
12	.8	1.2					2.2	3.0	1.5	2.5	.5	1.0
13	1.0	1.2					2.5	2.8	1.8	2.5	.5	.8
14	.8	1.0					3.0	5.2a	3.8	2.2	1.6a	1.0
15	.8	1.0					2.8	1.5	4.0	2.0	1.0	.7
16	1.5	1.0					2.5	1.5	4.5	3.8a	1.0	.8
17	2.0	1.2					2.5	1.8	4.0	.5	1.0	1.0
18	2.5	1.0					2.2	2.0	5.4a	1.0	2.5a	1.0
19	2.5	1.0					3.0	2.2	3.0	1.0	1.5	1.0
20	2.5	1.0					2.5	2.5	2.0	1.5	1.5	
21	2.3	1.0					3.0	5.8a	2.5	1.8	1.2	
22	2.2	1.0					3.2	2.0	2.8	1.5	1.5	
23	6.3a						5.5	2.0	2.8	4.0a	1.2	.8
24	1.7						4.2	1.8	2.8	.2	1.0	.8
25	2.0						4.0	2.5	4.8a	1.0	1.2	.0
26	2.0						3.8	2.8	1.8	1.0	1.0	1.0
27	1.5						3.5	2.0	2.0	1.0	1.0	1.0
28	1.5						3.2	6.8a	3.0	1.0	1.0	
29	1.5					3.5	3.2	5.3	3.5	1.2	1.0	
30	1.2					4.0	3.0	4.8	3.2	1.0	1.0	
31	1.2					4.2		4.2		1.0	1.0	
<b>1898-99</b>												
1		.8						7.33	2.50	5.71	1.58	1.17
2	.7	.8						7.50	3.33	1.00	6.50	1.00
3	1.0	.8						7.50	5.75	1.67	1.00	1.00
4	1.0	1.0						7.75	3.50	1.83	1.25	1.00
5	1.0	.8						6.75	4.08	2.00	1.50	1.17
6	1.0	.8						8.75	4.83	2.25	.75	1.17
7	1.0	.8					1.00	5.67	4.83	2.17	1.50	1.17
8	1.0	.8					1.42	4.50	4.75	4.79	1.50	1.17
9	1.0	.8					2.50	4.25	5.67	.50	1.50	1.25
10	1.0	1.0					2.67	3.50	6.50	1.50	1.50	1.33
11	1.1	.8					3.17	3.33	3.00	1.83	1.50	1.67
12	1.1	.8					3.29	4.00	2.50	1.83	1.33	1.75
13	1.2						4.47	6.12	4.83	4.16	1.00	1.67
14	1.2	.8					6.25	1.83	5.50		1.00	1.67
15	1.5	.8					6.00	2.00	7.00		1.50	1.33
16	1.2	.8					6.33	2.75	6.67	1.00	1.00	4.25
17	1.3	.8					6.33	4.50	5.75	1.33	1.00	
18	1.5	.8					5.25	6.25	4.12	.33	1.00	1.00
19	1.2	.8					5.00	6.50	3.75	.33	6.12	1.25
20	1.2	.8					5.00	8.38	4.75	1.08	1.50	1.25
21	1.2	.8					5.25	4.00	4.00	1.42	1.50	1.00
22	1.2						5.25	4.33	4.00	1.42	1.25	1.00
23							4.83	3.83	3.67	1.42	1.33	1.00
24	1.1						4.50	3.25	6.54	1.58	1.17	
25	.8						4.00	3.25	1.83	2.00	1.17	1.17
26	.8						3.75	3.00	1.83	2.00	1.00	1.08
27	.8						2.34	5.58	2.00	1.83	1.00	1.00
28	.8						4.00	3.50	2.25	1.83	1.33	1.00
29	.8						8.50	4.00	2.30	1.17	1.17	1.08
30							4.83	3.50	2.58		1.17	1.08
31	.8							3.75		1.58	1.17	

*Daily gage height, in feet, of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Concluded).*

[Fries Recording Gage.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1913-1914												
1-----	1.8	2.3	3.0	0.7	0.85	0.9	2.75	9.8	3.8	7.5	1.47	2.05
2-----	1.9	2.6	3.1	.8	.95	.95	2.8	8.7	3.0	6.3	1.5	2.4
3-----	1.7	2.4	2.7	.8	.9	.95	2.8	7.5	2.7	5.4	1.49	2.5
4-----	1.6	1.7	2.9	.8	.95	.85	2.8	6.7	6.0	4.9	1.05	2.55
5-----	1.6	1.6	2.3	.6	.95	.75	2.75	6.1	9.6	4.1	1.09	2.35
6-----	1.9	1.9	2.7	.85	.8	.8	2.45	5.6	8.8	3.5	1.05	2.6
7-----	2.2	1.9	2.6	.8	.85	1.0	2.2	5.4	7.5	3.1	.98	2.25
8-----	2.7	1.9	2.1	.8	.8	.75	2.1	4.9	6.2	2.6	.99	2.05
9-----	2.6	2.1	2.1	.75	1.1	.7	2.0	4.6	5.2	2.6	.90	1.9
10-----	2.3	2.1	1.3	.75	1.3	.75	1.65	4.3	3.9	2.25	.93	1.75
11-----	2.4	1.9	1.7	.8	1.3	.85	1.75	3.9	3.5	2.05	.89	1.8
12-----	2.6	1.9	1.6	.9	1.3	.85	1.75	3.8	2.65	2.35	.82	2.0
13-----	2.9	1.9	1.7	.85	1.0	.95	1.8	3.6	2.25	4.1	.92	2.1
14-----	2.6	1.9	1.4	.75	1.2	1.2	1.95	3.3	2.0	4.1	1.03	2.5
15-----	2.0	1.8	1.3	.6	.9	1.5	2.3	2.95	2.3	3.7	1.17	3.6
16-----	2.1	1.6	1.0	.7	.9	1.6	2.8	2.75	2.2	3.4	1.25	4.7
17-----	2.2	1.7	1.0	.75	1.1	1.6	3.1	2.6	2.15	3.2	1.39	4.9
18-----	1.7	1.7	.9	.55	1.2	1.4	3.7	2.45	1.75	2.3	1.50	4.5
19-----	1.7	1.6	.9	.6	.85	1.2	4.0	2.25	1.75	2.2	1.45	4.1
20-----	1.6	1.3	.8	.7	.85	1.0	5.0	1.95	1.65	2.1	2.0	3.6
21-----	1.6	1.6	.75	.8	.9	.9	4.8	2.15	1.95	1.75	2.0	3.4
22-----	1.7	2.1	.75	.85	.95	1.0	4.8	2.75	1.85	1.85	1.95	2.95
23-----	1.6	2.4	.9	.7	.95	.75	4.4	3.5	1.7	1.6	2.25	3.4
24-----	1.6	2.4	.9	.8	1.3	.85	4.1	3.5	2.4	1.55	3.7	4.0
25-----	1.5	2.5	.65	.7	1.2	.76	4.6	3.2	5.5	1.55	4.0	3.0
26-----	1.7	2.6	.75	.9	.8	.95	6.2	2.9	7.4	1.9	3.7	3.3
27-----	1.9	2.4	.9	.9	.65	1.09	6.5	2.9	8.3	1.8	3.1	3.2
28-----	2.7	2.2	.75	.8	.85	.85	7.2	3.0	10.0	1.6	2.6	3.0
29-----	2.6	2.2	.75	.9	-----	1.55	10.1	3.9	9.9	2.1	2.25	2.6
30-----	2.6	2.3	.6	.95	-----	2.6	10.7	5.0	8.8	1.85	2.1	2.25
31-----	2.4	-----	.75	.9	-----	2.8	-----	4.2	-----	1.7	2.05	-----

(a) Flood for log driving.

NOTE:—Discharge relation affected by ice about Dec. 1, 1913, to Mar. 22, 1914.

Daily discharge, in second-feet, of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1888</b>												
1										7,840	5,900	3,410
2										13,000	3,870	3,240
3										6,440	4,850	3,180
4										5,900	7,000	3,180
5										4,600	10,300	3,180
6										5,630	13,600	3,180
7										6,170	13,900	3,180
8										7,000	13,300	3,180
9										8,130	13,000	3,180
10										7,280	15,200	3,180
11										18,700	13,900	3,180
12										6,440	13,000	3,180
13										3,640	12,000	3,180
14										2,960	10,800	3,180
15										3,300	10,200	3,180
16										3,640	9,000	3,180
17										4,110	8,130	3,180
18										5,000	8,130	3,180
19										24,200	8,700	3,180
20										8,400	15,900	3,180
21										5,630	6,170	3,180
22									22,800	4,140	5,110	3,180
23									19,800	3,640	4,600	4,140
24									17,700	3,640	4,350	5,110
25									15,600	4,110	4,350	3,870
26									13,600	3,870	4,110	3,520
27									11,700	3,640	3,870	3,180
28									10,200	3,640	3,870	3,180
29									9,870	3,640	3,870	2,740
30									9,000	4,350	3,640	3,420
31										12,600	3,640	
<b>1888-1889</b>												
1	4,110						4,850	7,000	10,800	6,720	1,750	1,750
2	3,180						4,600	7,280	2,120	8,710	1,930	1,930
3	2,960						4,110	7,840	4,350	8,420	1,750	1,930
4	1,750						3,180	7,280	7,840	8,420	1,750	1,930
5	2,740						3,640	7,560	9,580	17,000	1,750	17,000
6	2,120						3,870	7,840	10,500	9,580	1,930	1,430
7	2,650						3,990	8,710	19,800	8,010	1,750	1,300
8	3,180						4,110	21,300	9,290	6,440	1,750	1,300
9	2,960	19,800					15,600	10,200	6,240	1,930	1,580	1,580
10	2,960	3,870					5,110	5,630	3,180	2,120	1,750	1,750
11	2,960	3,870					3,180	13,000	9,580	2,120	1,940	1,750
12	2,960	3,870					3,640	12,400	6,440	3,870	2,120	1,750
13	2,120						4,350	11,700	7,280	4,600	2,120	1,750
14	3,000						4,990	22,800	7,000	5,400	2,020	1,750
15	3,870						5,630	12,000	7,560	13,600	1,930	1,750
16	3,180						6,170	3,870	8,570	5,630	1,750	13,600
17	2,740						5,370	11,400	9,580	1,430	1,750	2,120
18	2,120						5,630	15,900	7,840	1,430	1,580	2,120
19	4,850						5,630	15,900	8,420	1,750	9,580	1,750
20	3,870						18,400	15,900	9,290	1,750	3,410	1,930
21	3,870						7,000	22,400	16,300	1,940	3,410	1,930
22	3,870						3,180	16,300	10,800	2,120	2,120	1,930
23	3,870						4,850	9,870	5,630	2,120	2,120	1,930
24	3,870						8,420	5,370	9,870	2,320	1,930	2,120
25	3,180						9,000	11,700	11,100	2,120	2,300	1,930
26	3,350						9,870	11,400	11,700	2,320	13,000	1,750
27	3,520						11,100	10,500	11,700	2,120	3,180	2,120
28	3,700						10,600	8,420	19,800	1,430	1,090	2,120
29	3,870					6,440	10,200	8,420	13,000	8,130	1,430	2,120
30	3,870					6,170	7,000	8,500	9,860	1,430	1,750	2,120
31	3,180							13,300		1,750	1,750	

*Daily discharge, in second-feet, of Chippewa River at Chippewa Falls, Wis., for the years ending Sept. 30, 1888-1914,—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1889—90												
1	2,120	730						7,560	14,000	1,580	2,120	2,960
2	2,120							7,840	12,300	3,180	2,120	2,960
3	1,750							7,000	12,600	5,370	1,940	1,930
4	1,930						7,560	5,370	12,600	4,980	1,750	4,850
5	1,750						5,630	10,500	13,900	4,600	1,750	10,500
6	1,660						6,320	11,100	18,700	4,600	1,750	11,700
7	1,580						7,000	1,750	19,800	4,350	1,750	11,800
8	1,430						12,300	2,960	19,100	4,350	1,750	12,000
9	1,430						17,300	3,180	19,100	4,350	2,120	11,700
10	1,430						18,700	12,000	16,300	4,350	14,600	10,500
11	1,300						20,900	3,180	17,700	2,120	14,600	10,800
12	1,300						25,000	1,300	16,300	10,800	13,600	5,630
13	1,360						27,200	1,750	15,600	3,000	12,300	2,960
14	1,430						26,900	3,870	13,000	2,120	6,170	3,660
15	1,300						25,000	4,110	11,600	2,120	5,110	4,350
16	1,430						20,500	3,870	10,200	4,850	6,720	4,350
17	1,430						18,000	11,400	9,870	8,710	5,660	4,110
18	1,300						18,000	3,640	8,130	7,560	4,600	4,110
19	1,300						17,300	2,120	7,000	13,300	4,350	4,350
20	1,300						14,900	4,600	6,440	3,000	4,600	7,000
21	1,300						14,600	8,130	5,630	2,120	8,130	9,870
22	1,300						14,600	9,870	5,120	2,120	7,840	9,870
23	1,300						13,900	11,700	4,600	2,120	7,000	8,420
24	1,300						13,900	21,600	4,600	3,180	5,800	7,000
25	1,190						13,000	18,400	11,400	3,410	4,600	5,630
26	1,090						13,900	15,200	3,180	10,200	5,370	5,110
27	1,090						13,300	17,000	1,930	3,000	5,370	14,600
28	1,090						11,100	13,000	1,930	2,120	5,370	5,000
29	860						11,100	13,000	1,760	2,120	8,710	3,870
30	860						8,710	11,100	1,580	2,120	6,720	2,320
31	860							19,500		2,120	4,000	
1890—91												
1	2,960	2,320						14,900	1,300	2,740	860	860
2	2,960	2,320						11,700	2,120	2,960	1,080	1,190
3	2,530	2,320						10,800	2,320	2,960	1,300	1,090
4	2,530	2,120						9,870	3,410	2,120	1,930	670
5	2,530	5,110						11,700	4,350	2,320	1,930	670
6	2,530	3,640						8,420	2,960	2,320	1,750	5,110
7	2,120	2,320						5,110	3,540	1,930	1,580	1,190
8	2,320	1,750						3,410	4,110	1,930	1,930	860
9	2,120	1,660						5,630	4,110	1,930	1,560	860
10	2,120	1,580						5,630	4,110	1,930	1,190	860
11	1,750							5,630	4,350	12,300	1,190	860
12	2,360							5,370	5,110	1,000	1,090	860
13	2,960						7,840	17,700	5,630	860	1,090	860
14	7,000						11,100	4,110	4,990	860	1,090	860
15	11,700						14,600	4,600	4,350	860	860	860
16	12,300						16,600	3,180	4,600	860	860	790
17	20,200						20,900	4,400	3,870	860	860	790
18	11,700						21,300	5,630	4,110	860	860	790
19	10,200						23,400	5,110	3,410	860	3,870	860
20	8,710						25,400	5,110	14,600	860	2,120	860
21	7,280						22,800	14,900	2,700	1,090	1,090	860
22	6,440						22,000	3,640	1,750	1,090	1,090	790
23	2,120						26,900	2,120	2,120	1,930	1,090	790
24	2,530						27,200	2,430	1,930	1,930	1,090	790
25	2,960						25,400	2,740	4,110	1,930	860	730
26	3,780						22,800	4,110	4,110	1,510	1,090	730
27	4,600						20,200	3,870	3,180	1,090	1,090	730
28	2,320						19,100	3,870	3,070	860	1,090	730
29	2,320						15,200	14,600	2,960	1,090	1,090	730
30	2,740						14,600	12,600	2,740	1,090	980	730
31	2,320							2,000		860	860	

Daily discharge, in second-feet, of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1891—92</b>												
1.....	730	2,000					2,120	1,010	13,000	19,100	6,440	1,090
2.....	790	1,190					4,350	4,850	11,700	13,600	5,110	1,010
3.....	930	1,190					13,900	7,000	9,870	17,000	4,850	1,010
4.....	1,010	1,190					16,300	9,870	10,200	16,300	4,350	2,740
5.....	1,090	1,190					19,800	10,500	8,420	15,600	1,750	1,090
6.....	2,320	1,190					18,700	11,400	7,840	12,300	14,900	1,190
7.....	2,740	1,190					20,500	12,000	10,500	10,200	860	1,090
8.....	1,300	1,190					18,000	13,300	14,600	7,560	1,430	1,190
9.....	1,010	1,190					14,600	10,200	14,600	9,290	1,930	1,300
10.....	1,300	1,190					12,700	13,300	13,000	2,120	1,930	1,430
11.....	1,430	1,190					10,800	11,700	12,300	4,850	1,930	1,930
12.....	1,750	1,090					4,350	12,300	10,500	1,580	2,740	2,120
13.....	2,120	1,090					5,630	13,300	9,870	3,180	2,740	2,530
14.....	1,930	1,010					4,600	13,600	9,290	3,410	1,300	1,750
15.....	1,750	1,010					4,350	13,600	7,560	4,350	1,580	2,530
16.....	1,580	1,010					4,110	17,000	8,130	18,700	1,750	2,120
17.....	13,900						3,990	18,000	12,300	1,010	1,750	2,120
18.....	1,500						3,870	19,100	15,600	1,300	1,300	1,750
19.....	1,430						3,410	18,000	15,200	3,870	1,300	2,120
20.....	1,430						2,530	30,300	15,600	4,350	6,440	1,750
21.....	2,530						3,410	35,800	15,200	3,870	860	1,580
22.....	1,750						4,350	34,600	13,600	1,750	860	1,300
23.....	1,010						15,900	30,300	13,000	16,300	860	1,300
24.....	1,010						1,300	22,800	12,300	1,300	860	1,300
25.....	1,050						1,750	20,500	9,870	1,300	860	1,010
26.....	1,090						2,120	18,400	7,840	1,430	4,850	1,090
27.....	1,090						2,320	17,000	19,500	1,750	1,090	1,090
28.....	1,190						4,600	15,200	28,800	8,130	1,010	1,090
29.....	1,190						4,850	14,900	28,000	11,100	1,010	1,090
30.....	1,190						15,900	14,600	24,200	9,870	1,010	1,090
31.....	12,300							15,200		7,560	1,010	
<b>1892—93</b>												
1.....	1,010	1,090						20,500	10,800	15,900	1,300	1,190
2.....	1,010	1,090						21,600	9,000	930	1,300	1,090
3.....	1,010	1,090					6,440	23,500	6,720	1,010	2,320	1,090
4.....	1,010	1,090					7,280	23,500	7,000	1,010	1,750	1,090
5.....	930	1,090					9,000	20,900	6,720	2,530	1,300	1,010
6.....	930	1,090					10,800	17,000	9,290	3,870	1,580	1,190
7.....	930	1,090					11,100	13,900	8,710	4,600	3,180	1,190
8.....	930	1,010					11,700	17,000	16,600	4,600	1,750	1,190
9.....	860	1,010					12,000	15,200	3,870	6,440	1,750	1,010
10.....	930						14,900	17,000	3,870	4,850	1,190	1,010
11.....	930						15,600	24,600	3,410	14,200	1,300	1,010
12.....	930						18,000	37,800	3,410	1,090	1,190	1,010
13.....	930						22,000	38,200	5,630	1,750	1,090	1,010
14.....	930						24,200	33,800	3,870	6,170	1,090	1,010
15.....	930						20,500	30,300	3,870	6,170	1,010	1,010
16.....	930						17,300	28,000	14,900	5,370	1,010	1,010
17.....	930						15,600	22,800	860	5,110	1,010	1,010
18.....	1,010						13,000	20,900	1,300	5,370	1,010	1,090
19.....	1,010						13,600	17,000	3,180	3,870	1,010	1,090
20.....	1,090						13,600	16,600	3,180	3,870	1,010	1,010
21.....	1,090						13,000	10,800	3,410	3,870	1,010	1,010
22.....	1,090						13,300	12,300	5,630	9,290	1,010	930
23.....	1,090						10,800	12,000	4,350	1,300	1,010	930
24.....	1,090						9,290	15,600	15,200	1,300	1,090	930
25.....	1,190						10,500	19,800	860	1,010	1,090	930
26.....	1,300						13,900	24,200	3,180	1,010	1,190	930
27.....	1,190						21,300	22,800	4,600	1,190	1,190	930
28.....	1,090						27,600	17,300	5,900	1,430	1,300	930
29.....	1,090						26,500	20,500	5,900	1,300	1,300	930
30.....	1,090						26,100	15,600	5,630	1,300	1,300	930
31.....	1,090							21,600		1,300	1,300	



Daily discharge, in second-feet, of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1893-94												
1	860	930					6,860	11,400	6,720	2,530	860	1,010
2	860						6,170	14,600	12,300	2,530	1,090	1,010
3	860						4,850	15,600	2,530	2,320	1,090	1,010
4	860						7,560	19,800	2,740	1,750	1,090	1,010
5	1,010					5,110	7,560	22,400	5,630	1,580	1,750	1,010
6	1,010					6,170	9,290	24,200	9,000	1,580	1,190	1,010
7	1,430					6,440	9,000	24,600	2,530	1,580	1,190	1,010
8	1,430	1,010				7,840	9,870	24,200	4,350	1,580	1,430	1,010
9	4,350	1,010				9,290	9,290	19,800	10,800	1,580	1,300	860
10	3,870	930				7,840	9,580	17,000	3,410	1,580	1,300	1,010
11	3,640	930				7,280	9,290	15,600	2,960	1,580	1,300	1,010
12	2,530	930				6,720	9,290	14,600	2,740	1,580	1,010	1,010
13	2,530	930				6,440	9,580	15,600	2,530	1,430	1,300	1,010
14	2,120	930				7,000	12,000	19,100	2,530	1,300	1,190	1,010
15	2,120	930				7,280	12,600	20,900	2,530	1,300	1,190	1,010
16	1,750	930				6,440	16,600	47,300	18,400	1,190	1,090	1,010
17	1,010	860				7,840	19,100	37,800	860	1,090	1,090	1,010
18	930	860				10,000	22,800	34,200	2,530	1,090	1,090	1,010
19	1,010	860				13,300	26,900	31,900	2,530	1,090	1,090	1,010
20	930	860				15,200	31,900	24,600	2,740	1,090	1,090	1,010
21	19,800	790				19,100	32,700	20,900	3,870	1,010	1,010	1,010
22	860	860				22,400	31,900	17,300	3,870	1,010	1,090	1,090
23	860					20,900	27,200	13,600	3,870	1,010	1,010	1,010
24	860					20,500	22,000	12,300	3,870	1,010	1,010	1,190
25	1,010					14,000	20,500	12,000	3,870	1,010	860	1,190
26	1,010					8,420	18,000	10,500	3,870	1,010	1,090	1,090
27	930					7,560	15,600	9,870	4,350	1,010	1,010	1,090
28	18,000					9,290	12,600	9,000	3,870	1,010	1,010	1,090
29	860					8,420	12,000	8,710	3,180	930	1,010	1,090
30	860					7,280	13,600	7,840	3,180	860	1,010	860
31	860					7,560		7,280		860	1,010	
1894-95												
1	860	2,530					1,750	4,350	16,300	2,530	2,530	570
2	860	2,960					1,300	4,110	860	2,740	1,010	570
3	930	2,960					1,300	4,350	7,280	4,600	14,600	1,010
4	1,010	2,960					1,300	8,420	8,710	4,600	860	7,000
5	860	2,740					1,300	10,500	9,870	1,580	860	6,440
6	860	2,960					1,190	9,870	7,560	13,300	1,010	5,630
7	860	2,960					1,660	9,290	5,630	2,320	1,090	5,630
8	930	3,180					2,120	9,000	13,300	3,180	1,090	3,320
9	1,010	3,180					3,410	9,290	1,580	2,530	1,090	1,010
10	1,010	3,180					2,320	8,420	5,630	1,750	2,120	1,010
11	1,010	2,740					2,530	7,560	8,130	3,870	3,000	1,010
12	1,010	1,750					3,410	17,700	17,000	5,370	3,870	1,010
13	1,010	1,750					3,870	15,600	19,100	13,900	3,180	1,010
14	1,010	1,430					2,740	14,900	13,600	6,000	2,960	1,010
15	1,010	1,430					1,300	12,300	17,000	5,630	2,960	1,010
16	860	1,300					2,120	11,100	13,500	5,370	14,600	1,010
17	860	1,090					1,750	8,710	10,800	6,440	1,750	1,010
18	930	1,090					2,530	7,560	7,560	6,440	1,010	1,090
19	930	1,090					1,750	5,900	10,500	6,440	1,300	1,750
20	860						1,190	17,000	4,850	6,440	1,010	1,750
21	860						1,190	3,410	3,410	5,110	1,090	2,120
22	930						1,190	4,600	13,300	5,630	2,740	3,640
23	1,010						2,120	4,350	5,000	6,170	1,090	12,000
24	1,010						1,300	3,870	4,850	6,440	1,090	15,900
25	1,430						1,300	17,000	5,370	4,600	1,190	15,200
26	1,930						1,580	1,010	7,560	4,600	1,300	12,300
27	1,580						10,800	1,750	5,630	9,290	1,190	9,290
28	1,930						2,000	2,530	4,350	1,010	1,190	5,110
29	3,180						1,010	3,180	15,600	2,320	1,010	5,110
30	1,750						2,960	2,320	2,530	3,180	620	5,110
31	2,320							3,410		2,740	570	



Daily discharge, in second-feet, of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1895—96</b>												
1	2,530	860						19,100	8,710	4,350	3,180	1,750
2	1,750	670						18,000	10,500	13,600	3,180	1,750
3	2,320	670						21,600	9,870	1,750	3,180	1,750
4	2,530	670						23,500	7,000	4,350	3,180	1,750
5	1,930	930						20,500	7,000	4,350	3,180	1,750
6	1,750	1,010						18,000	6,720	6,440	3,180	1,340
7	1,750	1,010						15,600	14,900	6,440	2,740	930
8	1,750	1,010						15,600	9,290	4,850	2,740	5,370
9	1,580	1,010						9,290	13,900	12,300	2,800	2,960
10	1,010	1,010						10,200	16,300	3,870	9,580	2,530
11	12,300	1,010						13,300	13,300	4,350	4,350	2,120
12	1,300	1,010						9,290	10,800	3,180	3,870	3,870
13	1,200	1,010					11,700	9,290	13,000	3,180	5,630	3,200
14	1,090	1,010					22,800	12,300	12,300	2,530	5,900	2,530
15	1,090	1,010					29,200	15,900	9,000	3,870	4,110	3,180
16	1,190	860					33,800	22,800	7,000	5,110	2,700	1,750
17	1,090	860					35,000	18,000	9,870	5,110	1,300	860
18	1,010	800					35,800	20,500	9,870	11,400	1,300	1,300
19	1,090	730					39,000	22,000	9,870	3,180	1,300	1,750
20	1,090						38,600	20,500	16,300	3,410	1,300	2,360
21	1,010						35,800	20,500	8,420	2,530	860	2,960
22	1,010						29,500	12,300	7,560	2,530	2,530	2,530
23	1,010						25,400	13,600	6,440	3,410	2,140	2,120
24	1,010						21,600	12,300	7,560	3,180	1,750	2,320
25	1,010						20,900	10,200	9,870	4,850	1,750	2,320
26	1,010						20,500	11,400	10,500	3,180	1,840	4,350
27	1,010						19,800	10,500	14,600	3,640	1,930	2,300
28	1,010						21,600	9,870	4,850	2,740	1,930	2,120
29	930						19,800	9,580	4,350	2,740	2,120	1,750
30	860						19,800	15,600	4,850	3,180	2,120	1,750
31	730							7,000		2,740	2,120	
<b>1896—97</b>												
1	1,750	7,750					46,500	15,600	5,630	11,400	13,000	2,120
2	1,750	9,870					60,100	13,900	6,440	9,870	11,400	2,120
3	1,750	10,200					52,400	12,300	13,600	7,560	9,870	3,870
4	1,750	9,290					33,000	10,500	19,800	9,870	9,870	3,870
5	1,750	8,420					33,400	9,290	26,500	7,560	9,290	3,870
6	1,750	8,420					33,000	9,290	16,300	7,000	7,000	3,870
7	2,120	8,710					28,400	7,000	14,600	7,000	7,000	3,870
8	2,120	9,000					25,400	7,560	15,600	5,630	6,440	3,870
9	2,120	9,290					22,800	6,440	13,000	2,530	6,440	16,300
10	1,750	7,000					20,500	7,560	13,600	7,280	5,630	3,180
11	1,520	5,630					18,000	8,420	14,600	2,120	4,850	3,180
12	1,300	4,350					17,000	6,440	14,200	4,350	4,850	1,090
13	1,300						15,600	7,560	11,400	4,350	4,850	3,870
14	1,750						15,600	7,560	10,800	2,530	4,850	4,350
15	1,300						16,300	14,200	9,870	3,180	7,000	4,850
16	1,750						18,000	6,440	15,600	2,530	3,180	4,350
17	1,870						18,000	4,350	10,800	2,530	3,640	3,180
18	2,000						16,300	5,630	20,500	1,750	3,180	3,180
19	2,120						16,300	5,630	21,600	3,180	3,180	3,180
20	2,120					25,400	14,900	10,500	17,300	2,530	3,180	3,180
21	2,120					24,600	13,600	16,300	16,300	3,180	13,600	3,180
22	2,120					25,400	13,000	22,000	11,400	2,530	2,530	3,180
23	2,120					26,100	13,600	13,000	11,400	3,870	3,180	2,740
24	1,750					28,400	13,900	13,600	11,100	3,870	2,740	2,530
25	1,750					26,500	13,000	13,600	10,200	3,870	3,180	2,530
26	1,750					27,200	11,700	13,600	9,290	4,850	2,530	1,300
27	1,750					25,400	12,000	12,300	6,440	15,600	2,530	1,300
28	1,750					26,500	10,800	10,500	6,440	20,500	2,530	4,110
29	1,750					29,900	12,300	16,300	8,420	18,000	1,300	2,120
30	4,350					35,400	15,200	3,180	10,500	18,000	1,300	2,120
31	5,630					46,500		4,350		13,600	2,120	

*Daily discharge, in second-feet, of Chippewa River at Chippewa Falls, Wis., for the years ending Sept. 30, 1888-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1897—98</b>												
1	2,530	2,530					9,290	6,440	9,290	7,560	2,120	2,120
2	2,530	2,530					8,420	6,440	9,290	7,560	2,120	2,120
3	2,120	2,530					7,560	9,290	7,840	7,560	2,120	2,120
4	2,530	2,530					7,000	9,870	17,000	7,560	2,120	1,300
5	2,120	2,530					6,440	9,290	2,530	7,560	2,120	1,300
6	3,640	2,530					5,630	8,420	4,350	7,560	2,120	1,750
7	3,180	2,530					4,350	13,900	3,180	7,560	5,900	1,750
8	2,120	2,530					4,350	3,870	7,000	9,870	2,530	2,120
9	7,840	2,530					4,350	3,180	9,290	13,900	2,120	1,300
10	1,750	2,530					4,350	7,000	7,000	3,640	1,750	1,300
11	1,750	2,530					4,350	7,000	17,700	4,350	1,300	1,300
12	1,750	2,530					4,850	7,000	3,180	5,630	1,300	2,120
13	2,120	2,530					5,630	6,440	3,870	5,630	1,300	1,750
14	1,750	2,120					7,000	13,600	9,290	4,850	3,410	2,120
15	1,750	2,120					6,440	3,180	9,870	4,350	2,120	1,580
16	3,180	2,120					5,630	3,180	11,400	9,290	2,120	1,750
17	4,350	2,530					5,630	3,870	9,870	1,300	2,120	2,120
18	5,630	2,120					4,850	4,350	14,200	2,120	5,630	2,120
19	5,630	2,120					7,000	4,850	7,000	2,120	3,180	2,120
20	5,630	2,120					5,630	5,630	4,350	3,180	3,180	2,030
21	5,110	2,120					7,000	15,600	5,630	3,870	2,530	1,940
22	4,850	2,120					7,560	4,350	6,440	3,180	3,180	1,840
23	17,300						14,600	4,350	6,440	9,870	2,530	1,750
24	3,640						10,500	3,870	6,440	1,010	2,120	1,750
25	4,350						9,870	5,630	12,300	2,120	2,530	860
26	4,350						9,290	6,440	3,870	2,120	2,120	2,120
27	3,180						8,420	4,350	4,350	2,120	2,120	2,120
28	3,180						7,560	19,100	7,000	2,120	2,120	2,010
29	3,180					8,420	7,560	13,900	8,420	2,530	2,120	1,900
30	2,530					9,870	7,000	12,300	7,560	2,120	2,120	1,800
31	2,530					10,500		10,500		2,120	2,120	
<b>1898—99</b>												
1	1,690	1,750						21,600	5,510	15,500	3,290	2,390
2	1,580	1,750						22,300	7,800	2,030	18,400	2,030
3	2,120	1,750						22,300	15,600	3,500	2,030	2,030
4	2,120	2,120						23,300	8,300	3,870	2,560	2,030
5	2,120	1,750						19,400	10,000	4,280	3,110	2,390
6	2,120	1,750						27,200	12,400	4,880	1,660	2,390
7	2,120	1,750						15,300	12,400	4,690	3,110	2,390
8	2,120	1,750						11,400	12,200	12,300	3,110	2,390
9	2,120	1,750						10,600	15,300	570	3,110	2,560
10	2,120	2,120					5,950	8,300	18,400	3,110	3,110	2,740
11	2,320	1,750					7,330	7,800	6,850	3,870	3,110	3,500
12	2,320	1,750					7,680	9,800	5,510	3,870	2,740	3,680
13	2,530	1,750					11,300	17,000	12,400	10,300	2,030	3,500
14	2,530	1,750					17,500	3,870	14,700	a1,500	2,030	3,500
15	3,180	1,750					16,600	4,280	20,400	a1,800	3,110	2,740
16	2,530	1,750					17,800	6,160	19,100	2,030	2,030	10,600
17	2,740	1,750					17,800	11,400	15,600	2,740	2,030	a1,800
18	3,180	1,750					13,900	17,500	10,200	1,120	2,030	2,030
19	2,530	1,750					13,000	18,400	9,050	1,120	17,000	2,560
20	2,530	1,750					13,000	25,800	12,200	2,200	3,110	2,560
21	2,530	1,750					13,900	9,800	9,800	2,930	3,110	2,030
22	2,530						13,900	10,800	9,800	2,930	2,560	2,030
23	2,420						12,400	9,290	8,810	2,930	2,740	2,030
24	2,320						11,400	7,560	18,600	3,290	2,390	a2,210
25	1,750						9,800	7,560	3,870	4,280	2,390	2,390
26	1,750						9,050	6,850	3,870	4,280	2,030	2,200
27	1,750						5,110	15,000	4,280	3,870	2,030	2,030
28	1,750						9,800	8,300	4,880	3,870	2,740	2,030
29	1,750						26,200	9,800	5,010	2,390	2,390	2,200
30	1,750						12,400	8,300	5,720	a2,840	2,390	2,200
31	1,750							9,050		3,290	2,390	

(a) Estimated.

Daily discharge, in second-feet, of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1899—1900</b>												
1	a2,040	5,950						7,800	2,730	a2,120	4,690	20,400
2	1,870	5,950						9,290	2,730	2,200	4,280	a10000
3	1,700	4,880						7,800	a2,730	2,730	4,280	7,330
4	1,700	2,740						8,060	2,730	4,470	12,700	16,600
5	1,700	a2,740						13,600	2,730	5,310	a3,500	13,000
6	2,030	2,740						7,800	2,730	8,540	3,500	a11400
7	1,700	2,560					7,070	7,560	2,730	12,400	3,110	9,800
8	1,300	2,560					9,290	4,880	4,280	20,200	3,110	22,900
9	1,660	3,870					10,300	4,450	10,700	7,330	3,110	5,510
10	1,660	3,870					15,600	5,950	2,560	5,950	4,280	7,560
11	1,700	3,680					13,900	7,330	2,560	6,850	14,700	12,300
12	1,700	a3,780					11,400	17,500	2,030	6,160	16,600	38,200
13	1,870	3,870					8,810	5,310	2,030	5,510	17,200	44,800
14	1,870	3,500					8,540	6,630	2,030	23,300	14,700	40,600
15	a1,870	3,110					5,110	6,380	2,030	4,280	12,400	34,800
16	1,870	3,500					4,690	5,720	2,030	4,880	10,300	24,200
17	2,030	3,110					7,560	4,690	2,030	4,880	9,440	20,400
18	4,280	3,110					27,000	4,690	2,030	4,690	17,300	12,400
19	14,700	a3,200					40,000	12,600	2,030	6,850	4,280	12,200
20	5,310	3,290					40,400	3,500	2,030	6,380	7,330	10,800
21	5,080	3,290					35,700	3,500	1,870	18,700	8,300	13,000
22	a4,180	3,290					28,900	4,690	2,390	a4,500	11,600	15,000
23	3,290	3,110					22,300	4,280	2,030	4,880	13,000	14,700
24	3,870	3,110					19,700	3,870	2,030	4,280	18,100	13,900
25	6,380	3,870					15,600	3,110	1,700	4,690	29,800	15,300
26	12,400	a3,000					14,700	10,300	1,700	4,280	12,400	19,100
27	13,000	3,290					12,400	3,500	1,660	4,280	12,400	19,100
28	20,800	3,110					9,290	2,930	2,560	11,100	8,300	17,500
29	a7,500	3,110					8,810	3,110	2,930	a2,500	7,560	14,700
30	7,560	a3,100					7,800	2,560	2,030	3,110	6,160	12,400
31	7,330							2,730		3,680	5,510	
<b>1900—01</b>												
1	11,400	19,000					6,850	9,800	3,110	8,540	7,560	2,030
2	10,800	29,100					8,300	9,800	2,390	6,850	6,160	2,030
3	12,200	31,300					9,800	9,800	2,390	7,330	13,300	2,030
4	35,700	28,200					11,400	17,300	2,390	7,330	3,110	2,560
5	45,500	22,800					17,500	3,110	2,390	9,920	4,280	3,110
6	45,500	18,400					18,400	6,380	10,000	13,900	5,510	2,560
7	a40200	14,700					21,300	7,330	3,110	15,000	5,510	3,110
8	35,000	13,000					21,300	6,850	3,110	12,200	5,080	2,560
9	29,600	9,290					20,400	8,060	16,600	10,300	5,510	3,110
10	24,900	9,800					20,400	7,560	2,030	10,300	12,600	3,110
11	19,700	a8,500					21,300	14,400	3,110	8,810	2,030	3,110
12	17,200	7,560					21,000	2,030	3,500	8,810	3,110	3,110
13	14,700	7,560					19,100	3,500	3,680	9,800	4,470	3,110
14	9,050	6,850					a18300	4,690	3,680	5,080	4,280	3,110
15	11,400	6,160					17,500	4,880	5,080	6,850	5,080	2,030
16	10,000	5,510					15,900	5,080	5,080	8,540	5,080	3,870
17	9,050	4,880					14,700	7,330	5,720	7,070	13,700	3,870
18	21,200	4,880					19,700	6,850	6,380	7,560	2,030	3,680
19	5,080	a4,880					18,900	6,630	6,160	6,160	2,560	3,680
20	4,690	4,880					19,700	5,510	6,630	11,200	3,680	3,870
21	a4,690	4,880					15,300	5,510	5,950	2,030	2,560	3,680
22	4,690	4,880					11,900	5,260	6,160	2,030	3,110	a2,500
23	4,280	4,880					9,800	5,260	6,160	4,090	3,680	3,110
24	4,690	4,880					12,200	5,510	6,380	6,160	3,680	2,030
25	9,800						6,850	5,510	6,380	7,330	3,680	2,030
26	5,950					8,300	8,300	5,510	4,690	7,330	3,680	2,030
27	4,690					9,050	16,100	5,510	13,400	15,000	18,400	2,030
28	a5,320					9,050	5,510	4,470	4,280	2,030	3,680	a3,000
29	5,950					9,800	5,510	4,690	4,280	1,700	4,690	a4,000
30	9,050					9,050	9,800	3,680	2,030	7,560	4,690	6,850
31	10,800					7,950		3,110		8,060	3,680	

(a) Estimated.

*Daily discharge, in second-feet, of Chippewa River at Chippewa Falls, Wis., for the years ending Sept. 30, 1888-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1901—02												
1	7,560	3,110					5,950	16,600	a2,000	4,280	2,030	2,030
2	6,630	5,110					5,080	16,000	2,030	4,880	1,700	2,390
3	7,560	5,510					5,510	15,600	3,870	5,950	a1,700	2,390
4	7,330	4,880					5,510	a16000	3,870	6,850	1,700	2,390
5	14,000	4,280					5,080	16,300	5,510	11,400	2,030	2,030
6	1,300	4,280					a5,080	14,100	5,720	a11700	2,390	2,030
7	4,280	4,280					5,080	11,900	12,900	10,800	2,030	a1,700
8	4,280	4,880					5,080	10,800	a6,000	7,560	1,700	1,700
9	4,280	4,280					5,080	11,100	8,300	15,000	1,540	1,700
10	4,280	a3,980				3,680	4,280	9,800	7,800	4,280	a1,720	1,720
11	4,880	3,680				3,680	a3,160	a9,050	6,850	4,280	2,030	1,700
12	5,080	3,110				5,080	2,030	8,300	6,850	4,690	2,030	2,390
13	5,080	3,110				4,880	2,030	11,400	6,850	4,690	2,030	2,560
14	16,600	3,110				5,510	5,080	11,400	23,300	4,280	2,030	a2,200
15	4,280	3,110				6,380	6,380	10,300	4,880	4,690	1,700	2,390
16	4,280	3,110				a6,380	12,200	8,810	5,510	4,690	6,520	2,390
17	4,880	2,560				a7,800	5,510	7,330	7,070	4,280	a1,500	2,030
18	4,880	2,030				7,800	3,500	5,950	5,080	3,870	1,700	1,700
19	5,080	2,030				7,560	3,110	5,950	5,510	10,100	1,700	1,700
20	4,880					6,850	a3,020	5,080	6,850	a3,000	1,700	2,030
21	4,880					6,380	2,030	5,080	14,200	3,500	1,700	a2,210
22	4,880					5,950	3,870	5,950	a6,000	3,500	2,030	2,390
23	4,280					a5,840	3,870	5,950	6,380	2,740	2,030	2,039
24	4,280					5,720	3,870	12,700	6,850	3,500	a2,030	2,030
25	3,680					6,380	4,690	a4,000	6,160	2,740	2,030	8,780
26	3,680					6,380	8,300	4,090	6,380	2,390	2,030	2,030
27	3,680					6,380	a15800	4,280	6,380	a2,390	2,030	2,030
28	3,110					7,560	23,300	4,690	14,000	2,390	2,030	a2,030
29	3,110					8,060	22,000	4,280	a3,000	2,030	2,030	2,030
30	3,110					a7,690	18,400	3,870	2,740	1,700	8,420	2,390
31	3,110					7,330		17,000		17,000	2,030	
1902—03												
1	2,390	21,000	3,870				7,560	27,200	25,600	10,000	3,110	4,880
2	2,390	a4,000	3,110				8,060	26,200	22,500	12,400	3,110	6,160
3	2,390	4,280	3,110				9,560	24,200	17,500	19,500	4,880	4,880
4	2,030	4,880	3,110				10,700	23,800	14,700	30,600	6,520	4,280
5	a2,030	5,510	2,740				a10200	22,800	11,500	34,700	8,780	a4,580
6	2,030	5,950	2,390				9,800	20,500	9,170	32,500	13,400	4,880
7	2,030	6,380	a2,210				9,440	18,300	4,690	27,200	13,500	5,510
8	2,030	4,690	2,030				10,600	14,700	6,160	22,300	22,600	6,300
9	2,030	a4,480	2,030				12,200	14,700	6,850	18,100	8,300	10,700
10	1,700	4,280					11,600	15a200	5,610	14,000	8,780	11,900
11	1,700	5,610					9,800	15,600	5,510	16,600	8,180	13,100
12	a1,860	4,880					a9,230	26,700	5,310	16,600	7,180	23,200
13	2,030	9,680					8,660	30,200	12,000	13,900	7,560	23,500
14	2,030	19,100					11,400	29,900	a3,000	11,200	7,330	34,400
15	2,390	25,400					11,900	27,800	3,110	9,440	14,600	43,500
16	2,030	28,200					11,800	23,600	3,110	8,420	a6,000	45,900
17	2,030	24,400					10,600	a20300	3,110	7,560	6,520	42,700
18	6,630	19,400				11,400	a9,050	17,000	2,560	18,000	5,210	36,400
19	a1,800	15,600				23,700	9,050	14,900	1,300	2,030	3,990	29,200
20	2,030	12,200				32,800	9,050	13,700	12,300	6,380	3,110	26,200
21	2,030	10,000				29,200	7,940	14,200	2,000	5,510	3,110	20,40
22	2,030	9,050				a26200	7,560	14,700	2,030	5,210	10,900	17,100
23	2,030	a8,300				23,300	6,630	13,700	2,560	4,880	a3,000	13,900
24	2,030	7,560				19,400	6,960	15a200	2,030	4,880	3,680	10,600
25	2,390	6,850				13,900	14,700	16,600	1,660	13,300	3,680	8,540
26	a2,560	6,160				11,900	a8,000	20,400	1,660	a4,000	3,680	7,940
27	2,740	5,510				11,100	9,320	29,100	9,440	4,570	3,680	7,560
28	2,740	4,280				10,300	8,660	39,400	a2,000	3,680	4,280	7,800
29	4,280	4,880				a9,420	9,800	41,900	3,110	3,110	4,880	7,560
30	4,690	4,280				8,540	26,600	38,800	3,870	2,650	5,510	7,560
31	4,880					8,300		32,500		2,280	4,880	

(a) Estimated.

Daily discharge, in second-feet, of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1903—04												
1	7,560	a4,280						a14100	12,200	9,050	3,110	2,030
2	7,560	4,280						13,900	9,050	10,800	3,110	4,280
3	8,300	4,280						14,200	9,800	a10600	3,110	17,500
4	15,600	3,680						13,000	18,000	10,300	3,110	9,800
5	24,200	3,680						11,400	a19700	19,400	2,030	11,900
6	24,100	3,110					13,000	11,800	21,400	20,400	2,030	10,300
7	24,100	3,110					8,540	24,200	21,300	16,600	a1,660	10,600
8	22,800	a3,110					13,000	a12000	19,200	15,300	1,300	9,050
9	22,600	3,110					14,700	13,900	16,300	6,850	1,300	6,850
10	19,900	3,110					a14700	14,700	13,000	a7,200	9,320	17,000
11	a18700	3,110					14,700	15,600	10,300	7,560	1,300	a3,000
12	17,500	3,110					14,700	14,700	a10300	6,160	2,030	2,560
13	14,700	3,110					13,900	14,700	10,300	5,510	2,030	3,680
14	13,600	3,110					13,000	19,900	9,800	4,690	a1,660	4,280
15	12,400	a3,110					11,400	a12000	8,540	4,280	1,300	4,280
16	9,920	3,110					9,050	11,400	12,000	4,280	1,300	4,280
17	9,290	3,110					a9,050	9,050	5,510	a3,980	1,660	10,000
18	a9,170	3,110					9,050	8,300	4,280	3,680	1,660	a2,000
19	9,050	2,560					11,400	9,290	a4,580	3,680	1,300	2,030
20	7,560						9,800	7,560	4,880	3,680	9,800	1,300
21	7,560						9,800	13,900	6,160	7,980	a1,300	1,300
22	6,850						9,800	a7,000	6,160	3,110	1,660	1,660
23	6,850						9,800	6,850	4,880	3,110	1,300	2,030
24	6,160						11,400	8,300	4,880	a3,110	3,680	9,800
25	a5,840						15,900	17,800	15,300	3,110	3,870	a11000
26	5,510						20,500	28,200	a13000	4,280	4,280	12,200
27	4,880						20,400	33,300	10,600	4,280	11,500	9,800
28	4,880						14,700	32,300	9,800	3,110	a2,000	6,850
29	4,880						15,200	a25400	9,050	3,680	2,030	23,300
30	4,880						14,300	18,400	a90,50	11,100	2,030	6,850
31	4,280							12,200		a3,000	2,030	-----
1904—05												
1	5,510	6,850					25,400	4,760	6,300	9,800	3,570	6,030
2	4,280	6,850					32,300	5,260	8,900	10,400	3,340	6,300
3	20,400	6,160					33,500	5,510	6,850	23,300	2,890	4,280
4	4,280	6,380					18,400	6,570	12,000	5,510	2,450	6,850
5	4,280	5,510					19,200	8,300	22,300	9,500	3,110	7,130
6	3,110	5,950					19,600	8,900	64,400	23,500	3,570	5,770
7	3,110	5,950					18,400	9,500	62,200	21,500	3,800	5,510
8	22,300	4,690					16,600	9,800	57,800	27,000	4,040	4,280
9	a28400	13,900					14,700	8,900	44,800	23,100	4,280	3,800
10	34,400	4,280					12,000	9,500	36,000	19,200	6,030	3,570
11	39,600	4,280					12,700	10,100	31,500	16,900	5,510	3,340
12	36,700	4,280					10,100	9,800	27,400	5,260	5,010	5,010
13	28,200	a4,500					4,280	10,100	24,200	6,850	4,760	4,760
14	23,300	10,000					6,850	13,000	19,600	5,770	5,010	4,520
15	19,100	5,510					6,300	19,200	15,800	6,030	4,760	4,760
16	14,700	4,280					6,030	23,100	14,400	6,300	4,760	5,010
17	10,300	3,680					5,770	26,600	12,300	6,300	4,280	6,030
18	10,800	3,680					5,010	24,200	22,700	6,030	4,520	11,400
19	7,560	3,680					4,520	20,400	19,200	6,850	4,280	6,850
20	6,850	3,110					4,280	18,400	21,900	6,300	4,760	13,000
21	10,800	3,110					3,800	14,400	20,400	5,510	8,300	22,300
22	22,100	3,110					3,570	13,000	16,200	5,010	8,600	20,400
23	13,900	3,110				4,280	2,450	12,700	14,000	5,260	5,010	15,800
24	14,100	2,560				6,300	4,280	10,400	14,000	5,510	5,260	13,000
25	11,400	2,560				6,850	3,800	11,400	18,400	5,260	6,030	6,850
26	10,300	2,560				8,300	4,040	9,200	6,850	5,010	4,280	11,400
27	10,800	a2,560				11,400	3,800	9,800	6,570	4,520	5,010	5,010
28	8,810	2,560				14,400	3,340	8,900	8,300	4,040	4,280	5,770
29	8,810	2,560				23,900	3,110	8,600	7,710	3,570	5,510	5,510
30	8,060	a2,560				30,200	3,570	8,900	4,760	3,340	5,770	5,260
31	7,560					28,200		6,850		3,110	5,510	-----



*Daily discharge, in second-feet, of Chippewa River at Chippewa Falls, Wis., for the years ending Sept. 30, 1888-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1905—06</b>												
1	a4,900	4,880	4,470				a12000	9,800	24,100	a4,500	9,800	10,900
2	5,510	5,310	4,470				10,800	9,800	4,470	13,000	2,030	1,700
3	11,200	4,880	4,880				17,300	10,300	a12000	7,800	2,030	1,700
4	3,110	4,280	5,510				19,700	10,600	6,850	4,470	2,030	10,600
5	3,110	a4,280	5,510				26,900	18,400	8,300	3,870	2,030	3,110
6	3,110	4,280	5,510				23,900	a16200	6,850	4,690	2,390	2,560
7	11,800	5,510	4,880				23,600	13,900	8,300	11,200	14,300	3,110
8	2,560	5,510	5,510				24,200	15,700	16,600	2,030	3,110	2,560
9	2,560	5,510	4,880				28,400	10,600	17,200	3,500	4,280	2,560
10	3,680	5,510	a4,580				31,300	4,880	14,700	3,870	11,800	8,780
11	4,880	6,160	4,280				30,600	3,870	12,400	11,100	3,110	2,740
12	13,700	a5,200	4,280				29,100	3,680	13,000	3,680	a2,500	2,740
13	6,160	5,510	4,280				30,400	a4,000	9,800	3,110	10,900	3,110
14	6,160	5,510	4,280				34,100	22,000	9,800	3,680	3,110	3,870
15	6,850	4,880	4,280				38,500	15,300	8,060	4,280	2,390	6,850
16	7,560	4,280	4,280				36,400	11,400	7,330	4,280	1,870	7,330
17	9,050	4,280	a4,280				32,300	5,080	5,510	6,160	2,030	19,400
18	10,800	6,160	4,280				28,900	9,800	12,500	3,680	9,320	8,300
19	11,400	a4,000	4,280				26,900	9,800	3,500	3,870	a2,000	5,080
20	14,700	4,280	4,280				24,900	4,880	3,500	4,280	2,030	6,380
21	13,900	3,870	4,280				24,200	12,600	3,870	4,280	2,030	5,510
22	a12600	3,870					22,300	3,110	4,280	2,560	4,880	5,950
23	11,400	3,680					21,600	9,050	12,300	2,560	15,600	6,850
24	10,800	3,680					19,700	20,400	a2,000	2,560	3,110	18,400
25	10,600	5,080					17,800	4,880	3,110	10,700	16,100	4,470
26	7,800	a5,000					16,600	9,050	4,880	3,110	a6,000	4,880
27	7,560	5,510					14,100	a14000	6,380	2,560	16,800	5,510
28	7,560	5,510					13,600	20,400	6,850	2,930	3,870	4,880
29	a7,200	5,080					10,300	19,100	7,800	2,200	11,200	4,280
30	6,850	4,690					10,300	17,200	3,680	1,700	3,870	3,680
31	5,510							14,700		2,390	3,870	
<b>1906—07</b>												
1	3,110	9,290					30,200	9,500	9,800	4,760	2,030	1,750
2	3,680	8,300					24,200	9,800	9,500	4,520	2,240	1,830
3	12,700	7,800					22,300	9,500	8,300	4,760	2,450	1,750
4	3,680	6,850					21,500	10,400	8,000	5,010	2,030	1,580
5	3,110	6,850					24,200	9,800	7,710	7,420	2,450	1,750
6	2,560	6,850					23,900	9,500	5,510	8,300	2,670	1,580
7	a2,290	6,850					22,300	9,200	6,850	6,570	2,450	1,750
8	2,030	6,850					20,000	9,500	7,710	5,260	2,670	1,580
9	2,390	9,050					18,800	9,200	6,030	5,010	2,450	1,430
10	2,390	9,050					14,700	8,900	5,510	4,520	2,670	1,580
11	12,700	a8,400					14,400	9,200	6,030	4,760	2,450	1,750
12	2,560	7,800					13,000	8,300	6,570	4,040	2,240	1,830
13	2,560	7,070					13,700	8,000	5,260	3,570	2,670	1,750
14	a2,840	6,850					11,000	8,900	5,510	3,340	2,240	1,580
15	3,110	6,850					10,700	14,700	6,300	2,890	2,030	1,750
16	3,500	6,850					10,400	16,200	6,030	3,110	2,240	1,830
17	3,680	5,510				4,280	9,500	18,800	5,770	3,340	2,030	2,030
18	3,680	a6,650				3,800	9,200	18,400	5,260	2,890	1,830	2,240
19	3,110	7,800				3,570	8,600	16,600	5,510	3,340	2,030	9,800
20	3,110	6,850				4,760	8,300	14,000	5,010	3,570	2,450	25,400
21	a3,700	6,850				5,010	8,000	13,700	4,760	2,670	2,670	32,300
22	4,280	6,850				5,510	7,710	12,300	4,520	4,040	2,450	30,200
23	4,880	6,850				8,300	6,570	11,400	4,760	3,800	2,240	25,800
24	7,800	a4,500				9,800	6,300	10,700	5,260	3,340	2,030	21,500
25	6,850	a4,500				11,400	8,600	12,000	8,000	3,110	2,240	10,700
26	13,300	4,280				18,400	9,800	12,700	6,850	2,670	2,030	20,000
27	13,000	6,630				20,400	9,200	11,000	6,030	2,450	1,830	10,400
28	13,000	7,330				28,200	9,500	12,000	5,770	2,240	2,030	12,000
29	12,400	7,560				32,300	9,200	8,300	5,260	2,030	1,830	6,030
30	11,400	7,800				36,400	9,800	9,800	5,010	3,570	1,750	11,000
31	9,800					36,000		10,100		2,030	1,830	

Daily discharge, in second-feet, of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1907—08</b>												
1	6,300	2,670					3,110	22,270	18,400	4,280	3,110	2,240
2	6,300	2,890					2,890	20,700	14,700	4,520	3,340	2,030
3	4,280	2,890					3,110	18,000	13,300	4,760	3,570	2,240
4	3,570	2,890					3,340	16,600	10,700	4,280	3,800	2,030
5	4,040	2,670					3,800	14,400	10,400	4,040	4,040	2,240
6	3,570	2,890					4,280	13,000	8,000	4,520	2,890	1,580
7	3,800	3,110					6,570	12,000	7,130	4,040	2,670	1,430
8	3,110	2,670					8,300	10,700	7,710	3,570	2,890	2,030
9	2,890	2,240					6,850	9,800	9,200	4,760	2,670	2,240
10	3,110	2,240					8,000	9,200	11,000	4,280	2,890	2,670
11	2,670	2,670					9,200	8,000	10,700	3,570	2,670	2,450
12	2,670	2,670					9,500	7,710	9,500	3,340	2,890	2,240
13	2,670	2,670					10,700	8,900	10,700	3,570	2,670	1,750
14	3,570	2,890					11,000	9,200	11,000	3,340	2,450	1,830
15	3,570	2,890					11,400	9,500	13,000	3,110	2,670	1,750
16	3,800	2,890					15,100	9,800	11,400	2,670	3,110	1,830
17	3,110	3,110					14,700	9,500	9,200	2,890	2,890	1,580
18	2,670	2,890					15,100	9,200	7,710	2,670	2,670	1,750
19	2,670	2,890					15,400	11,700	6,850	2,890	2,890	2,030
20	2,890	2,890					16,600	17,700	6,030	3,570	2,670	1,580
21	3,110	2,670				2,030	16,200	20,000	5,510	4,040	2,450	2,030
22	3,110	2,670				2,450	15,400	20,700	6,030	3,340	2,670	1,830
23	3,110	2,670				2,890	14,000	22,700	5,260	3,110	2,030	2,030
24	3,110	2,450				3,570	13,000	23,100	6,030	2,890	2,670	1,830
25	2,670	2,450				3,800	14,000	23,500	9,800	4,040	2,030	2,030
26	2,240	2,240				3,570	18,000	23,900	6,570	3,110	2,240	1,830
27	2,240	2,240				3,570	21,100	24,200	6,850	2,890	2,450	1,750
28	2,240	2,030				3,340	25,400	23,100	4,520	3,110	2,240	2,450
29	2,240	2,030				3,110	27,800	20,400	5,010	2,890	2,030	2,240
30	2,450	1,830				3,110	25,800	17,700	4,040	4,520	2,240	2,030
31	2,670					2,890		18,000		5,260	2,030	
<b>1908—09</b>												
1	2,670	2,670						10,400	5,510	3,110	5,510	2,450
2	2,450	2,890						9,500	7,710	2,890	6,300	2,240
3	2,240	2,890						8,000	12,300	2,670	3,800	2,240
4	1,580	2,670					3,340	9,500	21,900	2,450	3,800	2,030
5	2,240	2,670					3,570	11,600	4,280	2,030	4,280	2,030
6	2,030	2,670					3,800	19,200	11,400	2,670	3,800	2,030
7	2,240	2,670					4,040	19,600	12,700	2,240	3,800	2,030
8	2,030	2,670					4,280	24,200	14,000	2,030	3,800	2,240
9	1,830	2,670					4,280	20,000	16,600	2,240	3,800	1,750
10	2,030	2,450					4,040	20,700	15,400	2,030	3,110	1,750
11	1,750	2,240					4,280	18,400	12,000	1,830	3,110	2,030
12	2,450	2,030					4,520	19,600	8,900	2,670	3,570	2,350
13	2,240	1,830					5,510	14,400	5,010	2,890	3,800	2,670
14	2,030	1,830					5,770	4,760	5,510	3,110	3,110	2,670
15	2,240	1,830					7,710	9,500	4,520	3,340	4,700	2,890
16	2,030	1,830					8,300	21,500	6,850	3,570	6,300	2,670
17	1,830	1,830					8,600	24,200	5,510	3,800	4,520	2,670
18	1,580	1,830					8,900	26,200	7,130	3,340	3,800	2,670
19	1,830	1,830					9,200	24,600	6,850	3,110	3,800	2,670
20	2,030	1,830					13,000	21,100	8,900	3,570	3,570	2,670
21	1,830	1,830					14,700	20,400	6,570	3,110	3,800	3,110
22	2,030	1,750					16,600	16,600	5,510	3,340	2,030	2,450
23	2,240	1,750					15,800	16,200	4,760	3,570	2,670	2,450
24	2,450	1,750					8,600	13,300	5,010	4,520	2,670	2,450
25	2,240	1,830					10,700	11,400	4,520	8,600	2,670	2,450
26	2,450	1,830					7,710	9,800	4,760	9,800	3,110	2,450
27	2,670	2,030					12,000	8,300	4,520	9,500	2,670	2,450
28	2,450	2,450					12,700	8,600	4,280	8,300	2,450	2,030
29	2,670	2,670					13,000	7,130	4,040	6,850	2,450	2,030
30	2,890	2,670					12,700	6,850	3,800	8,000	2,450	2,030
31	2,890							17,700		4,760	2,450	

(a) Estimated.

*Daily discharge, in second-feet, of Chippewa River at Chippewa Falls, Wis., for the years ending Sept. 30, 1888-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1909-10</b>												
1	2,120	3,870	10,500	7,000	3,300	2,740	6,440	4,850	4,110	1,580	1,930	1,750
2	2,120	4,350	9,580	7,000	3,180	2,960	6,170	5,110	3,870	2,740	1,430	2,120
3	1,930	8,130	8,710	7,000	2,960	2,740	5,630	4,110	3,870	1,580	1,580	2,320
4	1,840	9,870	9,290	6,720	2,850	2,960	5,370	3,870	9,290	1,930	1,750	1,930
5	2,220	9,580	8,130	6,440	2,740	2,960	5,630	3,640	3,640	2,530	1,930	1,580
6	2,220	9,000	7,560	6,440	2,640	3,070	5,900	3,870	4,110	1,580	1,580	2,320
7	2,320	8,130	7,000	6,170	2,530	3,300	6,170	3,640	3,410	790	860	3,410
8	2,220	7,000	6,440	6,170	2,530	3,410	5,900	3,410	3,180	730	1,750	3,180
9	2,220	6,440	6,440	6,440	2,850	3,520	6,170	3,180	3,180	670	1,580	2,530
10	2,020	5,370	6,440	6,440	2,850	3,760	5,110	2,960	2,960	620	1,190	2,120
11	2,530	4,350	6,170	7,000	2,530	3,990	4,350	2,960	2,740	790	1,300	1,750
12	3,180	4,600	5,900	6,440	2,530	4,110	4,600	2,960	2,120	620	860	2,530
13	3,180	6,440	5,900	5,900	2,960	4,110	4,110	2,740	2,530	570	1,010	2,120
14	3,410	13,600	5,900	5,630	2,850	3,990	3,870	2,960	2,320	2,120	860	2,320
15	3,300	21,300	5,630	5,630	2,740	3,760	4,110	2,120	2,740	620	1,010	2,530
16	3,300	20,500	5,900	5,370	2,740	3,640	3,870	2,740	2,120	570	1,430	2,740
17	3,070	18,400	6,170	5,370	2,640	3,300	3,410	2,960	2,530	490	1,300	2,530
18	3,180	14,200	5,630	4,850	2,530	3,300	3,180	4,850	2,740	670	1,580	1,300
19	3,300	11,400	5,900	4,350	2,530	3,870	4,600	8,420	2,120	620	1,750	3,410
20	3,070	11,700	7,000	4,230	2,740	4,350	5,370	9,870	2,740	570	1,930	3,180
21	2,960	11,700	6,720	3,640	2,740	4,850	9,580	8,710	2,320	530	1,010	1,190
22	3,520	9,580	6,440	3,300	2,320	8,130	8,710	9,000	2,120	530	1,090	1,090
23	3,410	7,280	7,000	3,180	2,420	7,840	7,560	9,290	1,750	570	1,580	2,120
24	3,640	7,560	7,000	3,070	2,850	7,000	6,440	9,000	2,120	460	1,430	1,930
25	3,640	7,280	6,440	3,070	2,960	8,130	6,720	8,420	2,320	790	1,580	1,300
26	3,870	7,560	7,000	3,520	2,740	8,130	7,560	8,130	1,580	2,120	1,430	2,530
27	4,110	8,130	7,000	3,760	2,740	7,840	5,630	7,840	2,120	2,320	1,300	1,930
28	3,870	9,580	7,000	3,870	2,960	7,000	5,900	7,000	2,120	2,530	860	2,120
29	3,870	11,700	6,440	3,640	-----	7,000	5,370	5,110	1,750	2,320	1,930	1,930
30	3,870	12,300	7,000	3,410	-----	7,000	5,630	2,530	1,580	1,750	2,120	2,120
31	3,410	-----	7,000	3,410	-----	6,440	-----	4,350	-----	1,010	1,930	-----
<b>1910-11</b>												
1	2,530	1,580	1,580	1,580	1,930	1,580	5,370	4,110	3,870	1,300	-----	-----
2	2,320	1,580	1,580	1,580	1,750	1,580	5,110	4,110	4,850	1,190	-----	-----
3	2,320	1,580	1,430	1,580	1,580	1,580	4,600	4,110	4,850	1,190	-----	-----
4	2,420	1,580	1,360	1,580	1,580	1,580	4,350	4,350	4,850	1,430	-----	-----
5	2,530	1,580	1,300	1,580	1,660	1,580	3,870	4,350	5,900	1,750	-----	-----
6	2,640	1,580	1,300	1,580	1,840	1,580	3,870	4,110	9,870	1,580	-----	-----
7	2,530	1,580	1,360	1,580	1,930	1,660	3,640	4,110	10,200	1,580	-----	-----
8	2,420	1,580	1,430	1,580	1,750	1,750	3,640	4,110	6,440	1,580	-----	-----
9	2,320	1,580	1,360	1,580	1,750	1,750	3,640	2,960	5,630	1,750	-----	-----
10	2,420	1,580	1,300	1,580	1,580	1,930	3,410	3,180	5,370	2,120	-----	-----
11	2,320	1,580	1,300	1,580	1,580	2,120	3,870	4,350	3,870	2,120	-----	-----
12	2,420	1,580	1,300	1,580	1,580	2,850	2,530	3,640	3,870	2,120	-----	-----
13	2,320	1,580	1,300	1,580	1,580	3,180	6,170	2,740	2,740	1,750	-----	-----
14	2,320	1,500	1,300	1,580	1,580	2,850	8,420	2,740	2,530	1,750	-----	-----
15	2,320	1,430	1,300	1,580	1,580	2,960	5,370	3,640	3,410	1,300	-----	-----
16	1,360	1,430	1,300	1,580	1,580	3,410	7,000	4,110	2,740	1,090	-----	-----
17	2,320	1,430	1,300	1,580	1,580	3,640	6,440	4,110	2,530	1,190	-----	-----
18	1,300	1,430	1,300	1,580	1,580	3,640	5,900	4,110	2,320	1,090	-----	-----
19	1,500	1,430	1,430	1,580	1,750	3,640	5,630	4,110	2,320	1,090	-----	-----
20	1,750	1,300	1,580	1,580	1,750	3,410	5,900	4,350	1,930	1,190	-----	-----
21	1,750	1,300	1,750	1,580	1,750	3,300	8,130	7,280	1,750	1,190	-----	-----
22	1,430	1,300	1,580	1,580	1,750	3,410	6,440	10,500	1,750	1,190	-----	-----
23	1,580	1,300	1,430	1,580	1,750	3,520	6,170	9,870	1,580	1,090	-----	-----
24	1,580	1,300	1,580	1,580	1,750	3,990	6,440	11,400	1,580	1,190	-----	-----
25	1,580	1,300	1,580	1,580	1,750	4,350	5,900	11,400	1,580	1,190	-----	-----
26	1,580	1,300	1,580	1,580	1,580	4,600	5,110	9,290	1,580	1,300	-----	-----
27	1,580	1,300	1,430	1,580	1,580	4,600	5,370	7,000	1,580	1,300	-----	-----
28	1,580	1,360	1,430	1,580	1,580	4,350	4,600	6,440	1,430	1,300	-----	-----
29	1,580	1,430	1,430	2,120	-----	6,440	3,870	5,630	1,430	1,430	-----	-----
30	1,580	1,500	1,580	2,120	-----	6,170	4,110	4,000	1,300	1,090	-----	-----
31	1,580	-----	1,580	2,120	-----	6,440	-----	3,870	-----	1,300	-----	-----



Daily discharge, in second-feet, of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1911—12												
1	2,220	4,350					4,850	12,300	10,800	2,530		
2	2,320	2,300					5,110	10,800	9,870	2,120		
3	4,350	2,220					6,170	9,870	9,290	2,120		
4	7,280	2,220					6,170	11,400	7,560	2,960		
5	7,280	2,220					9,000	20,500	7,560	2,530		
6	21,600	2,220					13,600	28,800	7,000	2,120		
7	33,400	2,220					17,300	28,800	6,440	2,120		
8	33,000	2,220					22,400	23,900	5,900	2,120		
9	25,400	2,320					21,300	19,800	5,900	2,120		
10	18,000	2,320					17,300	15,600	4,850	2,530		
11	14,600	2,320					14,600	13,000	4,350	2,120		
12	10,200	2,320					13,000	10,500	3,870	2,120		
13	7,280	2,320					12,300	9,580	3,520	2,740		
14	7,280	2,220					12,000	8,130	3,640	2,530		
15	7,000	2,220					12,600	7,280	3,870	2,530		
16	8,420	2,220					13,300	7,000	3,640	2,120		
17	16,300						14,600	6,440	3,990	2,120		
18	18,400						12,000	7,000	4,110	1,930		
19	20,200						12,000	6,170	5,110	1,930		
20	16,600						10,500	6,440	4,850	1,930		
21	14,600						9,000	6,170	4,850	1,580		
22	13,000						12,300	6,440	4,350	1,580		
23	10,200						17,000	23,500	3,870	1,580		
24	9,870						16,300	27,600	3,870	2,530		
25	8,420						13,000	20,500	3,870	3,870		
26	7,280						13,000	14,900	3,410	12,300		
27	7,000						14,200	12,000	3,070	9,000		
28	7,000						16,300	20,500	2,850	6,170		
29	4,600						17,000	23,500	2,640	5,110		
30	4,350						14,600	20,500	2,120	3,640		
31	4,350							16,300		3,180		
1912—13												
1							13,600	11,400	9,870	2,120	7,000	3,180
2							20,500	11,400	9,870	2,120	4,850	2,420
3							31,100	9,870	8,420	1,500	4,350	2,420
4							35,000	9,290	8,420	2,120	4,350	3,180
5							31,100	9,290	7,000	7,840	3,870	3,870
6							23,500	8,420	5,110	22,400	3,640	3,180
7							22,400	7,560	5,110	20,500	3,180	3,640
8							18,700	7,000	9,870	16,300	3,180	2,850
9							17,000	6,440	9,290	13,600	2,850	2,850
10							14,600	5,630	7,840	13,600	2,850	2,850
11							13,900	6,170	7,000	12,300	2,420	2,850
12							11,400	6,170	6,440	12,300	2,420	2,420
13							13,600	5,110	6,170	9,870	2,850	2,420
14							16,300	5,110	5,630	9,870	2,850	2,420
15							17,300	5,110	5,110	9,290	2,420	2,420
16							20,500	6,170	5,110	8,420	2,120	2,420
17							18,000	7,840	4,350	9,000	2,120	2,420
18							22,400	10,800	4,350	7,840	2,120	2,120
19							22,800	12,000	4,350	7,560	3,180	1,840
20							21,600	12,000	4,350	8,420	7,840	2,120
21							19,800	13,000	3,870	7,560	7,840	2,420
22							18,000	17,300	3,180	6,440	7,840	3,180
23							17,000	19,100	2,850	5,110	6,170	3,180
24							17,000	17,300	2,850	4,850	5,630	3,640
25							16,300	13,900	3,640	4,850	4,350	3,640
26							16,300	13,000	2,420	4,350	4,350	4,850
27							15,600	10,800	2,420	4,350	3,640	5,110
28							13,900	9,000	2,120	4,850	3,640	5,630
29							13,000	9,290	2,120	7,000	2,850	5,110
30							13,000	9,870	2,120	7,560	2,420	4,350
31								9,870		8,420	3,180	

*Daily discharge, in second-feet, of Chippewa River at Chippewa Falls, Wis., for the years ending Sept. 30, 1888-1914.—(Concluded).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1913-14												
1	4,200	5,480					6,700	30,400	9,720	21,800	3,400	4,830
2	4,450	6,280					6,840	26,300	7,400	17,600	3,470	5,740
3	3,950	5,740					6,840	21,800	6,560	14,700	3,450	6,010
4	3,710	3,950					6,840	19,000	16,600	13,100	2,440	6,140
5	3,710	3,710					6,700	16,900	29,700	10,600	2,530	5,610
6	4,450	4,450					5,880	15,300	26,700	8,850	2,440	6,280
7	5,220	4,450					5,220	14,700	21,800	7,690	2,300	5,350
8	6,560	4,450					4,960	13,100	17,300	6,280	2,320	4,830
9	6,280	4,960					4,700	12,200	14,000	6,280	2,130	4,450
10	5,480	4,960					3,830	11,200	10,000	5,350	2,190	4,080
11	5,740	4,450					4,080	10,000	8,850	4,830	2,110	4,200
12	6,280	4,450					4,080	9,720	6,420	5,610	1,980	4,700
13	7,120	4,450					4,200	9,140	5,350	10,600	2,170	4,960
14	6,280	4,450					4,580	8,270	4,700	10,600	2,400	6,010
15	4,700	4,200					5,480	7,260	5,480	9,430	2,700	9,140
16	4,960	3,710					6,840	6,700	5,220	8,560	2,880	12,500
17	5,220	3,950					7,690	6,280	5,090	7,980	3,210	13,100
18	3,950	3,950					9,430	5,880	4,080	5,480	3,470	11,800
19	3,950	3,710					10,300	5,350	4,080	5,220	3,350	10,600
20	3,710	3,000					13,400	4,580	3,830	4,960	4,700	9,140
21	3,710	3,710					12,800	5,090	4,580	4,080	4,700	8,560
22	3,950	4,960					12,800	6,700	4,320	4,320	4,580	7,260
23	3,710	5,740				1,850	11,500	8,850	3,950	3,710	5,350	8,560
24	3,710	5,740				2,040	10,600	8,850	5,740	3,590	9,430	10,300
25	3,470	6,010				1,870	12,200	7,980	15,000	3,590	10,300	9,720
26	3,950	6,280				2,240	17,300	7,120	21,500	4,450	9,430	8,270
27	4,450	5,740				2,530	18,300	7,120	24,800	4,200	7,690	7,980
28	6,560	5,220				2,040	20,800	7,400	31,200	3,710	6,280	7,400
29	6,280	5,220				3,590	31,600	10,000	30,800	4,960	5,350	6,280
30	6,280	5,480				6,280	33,900	13,400	26,700	4,320	4,960	5,350
31	5,740					6,840		10,900		3,950	4,830	

NOTE.—Daily discharge June 22, 1888, to Nov. 21, 1898, and Oct. 1, 1909, to Sept. 30, 1914, computed from a rating curve well defined between 1,940 and 23,700 second-feet (gage heights 0.8 and 8.0 feet). Discharge Apr. 10, 1899, to Sept. 30, 1909, computed from a rating curve well defined between 2,030 and 24,200 second-feet; for discharges of 1,830 second-feet and over the curve coincides with that used in computing the data published in Water-Supply Papers 245 and 265; discharge below 1,830 second-feet for this period revised in the above tables by new rating curve used for the other years. All discharges below 1,300 second-feet (gage height 0.5 foot) based on extension of rating curve.

Open-water rating curve used throughout years ending Sept. 30, 1910 and 1911; published discharges for January, February and March may therefore be too large.

Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements, and climatologic records, as follows: Dec. 1 to 10, 1913, 6,160 second-feet; Dec. 11 to 20, 2,800 second-feet; Dec. 21 to 31, 1,700 second-feet; Jan. 1 to 10, 1,690 second-feet; Jan. 11 to 20, 1914, 1,590 second-feet; Jan. 21 to 31, 1,850 second-feet; Feb. 1 to 10, 1,920 second-feet; Feb. 11 to 20, 1,580 second-feet; Feb. 21 to 28, 1,630 second-feet; Mar. 1 to 10, 1,700 second-feet; and Mar. 11 to 22, 1,680 second-feet.

Monthly discharge of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.  
[Drainage area, 5,600 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1888						
July	24,200	2,960	6,620			
August	15,900	3,640	8,330			
September	5,110	2,740	3,310			
1888—89						
October	4,850	1,750	3,240			
November						
December						
January						
February						
March						
April	18,400	3,180	6,580			
May	22,800	3,870	11,300			
June	19,800	2,120	9,500			
July	17,000	1,430	4,730			
August	13,000	1,090	2,580			
September	17,000	1,300	2,740			
1889—90						
October	2,120	860	1,380			
November						
December						
January						
February						
March						
April (4—30)	27,200	5,630	15,400			
May	21,600	1,300	8,630			
June	19,800	1,580	10,500			
July	13,800	1,580	4,320			
August	14,600	1,750	5,750			
September	14,600	1,930	6,800			
1890—91						
October	20,200	1,750	4,940	.932	1.07	
November (1—10)	5,110	1,580	2,510			
December						
January						
February						
March						
April (13—30)			19,900	3.74	2.50	
May	17,700	2,000	6,930	1.31	1.51	
June	14,600	1,300	3,870	.730	.81	
July	12,300	860	1,860	.351	.40	
August	3,870	860	1,300	.245	.28	
September	5,110	670	979	.185	.21	
1891—92						
October	13,900	730	2,180			
November (1—16)	2,000	1,010	1,190			
December						
January						
February						
March						
April	20,500	1,300	8,170			
May	35,800	1,010	16,100			
June	28,800	7,560	13,400			
July	19,100	1,010	7,550			
August	14,900	860	2,600			
September	2,740	1,010	1,530			

*Monthly discharge of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).*

Month	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accu- racy.
	Maximum	Minimum	Mean	Per square mile.		
1892—93						
October.....	1,300	860	1,020			
November (1—9).....	1,090	1,010	1,070			
December.....						
January.....						
February.....						
March.....						
April (3—30).....	27,600	6,440	15,300			
May.....	38,200	10,800	21,100			
June.....	16,600	860	6,030			
July.....	15,900	930	3,970			
August.....	3,180	1,010	1,320			
September.....	1,190	930	1,020			
1893—94						
October.....	19,800	860	2,610			
November (16 days).....	1,010	790	909			
December.....						
January.....						
February.....						
March (5—31).....	22,400	5,510	10,200			
April.....	32,700	4,850	15,200			
May.....	47,300	7,280	18,900			
June.....	18,400	860	4,610			
July.....	2,530	860	1,360			
August.....	1,750	860	1,120			
September.....	1,190	860	1,030			
1894—95						
October.....	3,180	860	1,180			
November (1—19).....	3,180	1,090	2,280			
December.....						
January.....						
February.....						
March.....						
April.....	10,800	1,010	2,210			
May.....	17,700	1,010	7,850			
June.....	19,100	860	8,880			
July.....	13,900	1,010	5,040			
August.....	14,600	570	2,420			
September.....	15,900	570	4,320			
1895—96						
October.....	12,300	730	1,680			
November (1—19).....	1,010	670	903			
December.....						
January.....						
February.....						
March.....						
April (13—30).....	39,000	11,700	26,700			
May.....	23,500	7,000	15,100			
June.....	16,300	4,350	9,820			
July.....	13,600	1,750	4,590			
August.....	9,580	860	2,900			
September.....	5,370	860	2,310			

*Monthly discharges of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).*

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1896—97						
October.....	5,630	1,300	2,020			
November (1—12).....	10,200	4,350	8,160			
December.....						
January.....						
February.....						
March (20—31).....	46,500	24,600	28,900			
April.....	60,100	10,800	21,700			
May.....	22,000	3,180	10,200			
June.....	26,500	5,630	13,100			
July.....	20,500	1,750	6,860			
August.....	13,600	1,300	5,360			
September.....	16,300	1,090	3,550			
1897—98						
October.....	17,300	1,750	3,810			
November (1—22).....	2,530	2,120	2,380			
December.....						
January.....						
February.....						
March.....						
April.....	14,600	4,350	6,940			
May.....	19,100	3,180	7,650			
June.....	17,700	2,530	7,860			
July.....	13,900	1,010	5,040			
August.....	5,900	1,300	2,460			
September.....	2,120	1,300	860			
1898—99						
October.....	3,180	1,580	2,220			
November (1—21).....	2,120	1,750	1,790			
December.....						
January.....						
February.....						
March.....						
April (10—30).....	26,200	5,110	12,700			
May.....	27,200	3,870	13,100			
June.....	20,400	3,870	10,600			
July.....	15,500	570	3,940			
August.....	18,400	1,660	3,540			
September.....	10,600	1,800	2,710			
1899—1900						
October.....	20,800	1,300	4,710			
November.....	5,950	2,560	3,480			
December.....						
January.....						
February.....						
March.....						
April (7—30).....	40,400	4,690	16,000			
May.....	17,500	2,560	7,180			
June.....	10,700	1,660	2,610			
July.....	23,300	2,120	6,810			
August.....	29,800	3,110	9,800			
September.....	44,800	5,510	17,700			

*Monthly discharges of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).*

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1900—01						
October.....	45,500	4,280	15,600			
November (1—24).....	31,300	4,880	11,500			
December.....						
January.....						
February.....						
March (26—31).....	9,800	7,950	8,870			
April.....	21,300	5,510	14,800			
May.....	17,300	3,110	6,480			
June.....	16,600	2,030	5,210			
July.....	15,000	1,700	7,900			
August.....	18,400	2,030	5,490			
September.....	6,850	2,030	3,030			
1901—02						
October.....	16,600	1,300	5,270			
November (1—19).....	5,510	2,030	3,710			
December.....						
January.....						
February.....						
March (10—31).....	8,060	3,680	6,330			
April.....	23,300	2,030	6,830			
May.....	17,000	3,870	9,470			
June.....	23,300	2,000	6,960			
July.....	15,000	1,700	5,160			
August.....	8,420	1,540	2,250			
September.....	8,780	1,700	2,300			
1902—03						
October.....	6,630	1,700	2,520			
November.....	28,200	4,000	9,890			
December (1—9).....	3,870	2,030	2,730			
January.....						
February.....						
March (18—31).....	32,800	8,300	17,100			
April.....	26,600	6,630	10,200			
May.....	41,900	13,700	22,700			
June.....	25,600	1,300	7,050			
July.....	34,700	2,030	12,400			
August.....	22,600	3,000	6,900			
September.....	45,900	4,280	16,400			
1903—04						
October.....	24,200	4,280	11,700			
November (1—19).....	4,280	2,560	3,330			
December.....						
January.....						
February.....						
March.....						
April (6—30).....	20,500	8,540	12,900			
May.....	33,300	6,850	15,100			
June.....	21,400	4,280	11,000			
July.....	20,400	3,000	7,220			
August.....	11,500	1,300	2,900			
September.....	23,300	1,300	7,380			

*Monthly discharge of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).*

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1904—05						
October.....	39,600	3,110	14,600	-----	-----	-----
November.....	13,900	2,560	4,690	-----	-----	-----
December.....	-----	-----	-----	-----	-----	-----
January.....	-----	-----	-----	-----	-----	-----
February.....	-----	-----	-----	-----	-----	-----
March (23—31).....	30,200	4,280	14,900	-----	-----	-----
April.....	25,400	2,450	9,720	-----	-----	-----
May.....	26,600	4,760	11,800	-----	-----	-----
June.....	64,400	4,760	21,600	-----	-----	-----
July.....	27,000	3,110	9,530	-----	-----	-----
August.....	8,600	2,450	4,780	-----	-----	-----
September.....	22,300	3,340	7,650	-----	-----	-----
1905—6						
October.....	14,700	2,560	7,890	-----	-----	-----
November.....	6,160	3,680	4,870	-----	-----	-----
December (1—21).....	5,510	4,280	4,630	-----	-----	-----
January.....	-----	-----	-----	-----	-----	-----
February.....	-----	-----	-----	-----	-----	-----
March.....	-----	-----	-----	-----	-----	-----
April.....	38,500	10,300	23,400	-----	-----	-----
May.....	22,000	3,110	11,400	-----	-----	-----
June.....	24,100	2,000	8,660	-----	-----	-----
July.....	13,000	1,700	4,660	-----	-----	-----
August.....	16,800	1,870	5,820	-----	-----	-----
September.....	19,400	1,700	5,930	-----	-----	-----
1906—7						
October.....	13,300	2,030	5,780	-----	-----	-----
November.....	9,290	4,280	7,050	-----	-----	-----
December.....	-----	-----	-----	-----	-----	-----
January.....	-----	-----	-----	-----	-----	-----
February.....	-----	-----	-----	-----	-----	-----
March (17—31).....	36,400	3,570	15,200	-----	-----	A
April.....	30,200	6,300	13,900	-----	-----	A
May.....	18,800	8,000	11,400	-----	-----	A
June.....	9,800	4,520	6,280	-----	-----	A
July.....	8,300	2,030	3,970	-----	-----	A
August.....	2,670	1,750	2,230	-----	-----	A
September.....	32,300	1,430	8,220	-----	-----	A
1907—8						
October.....	6,300	2,240	3,240	-----	-----	A
November.....	3,110	1,830	2,630	-----	-----	A
December.....	-----	-----	1,600	-----	-----	C
January.....	-----	-----	1,360	-----	-----	C
February.....	-----	-----	1,300	-----	-----	C
March.....	3,800	-----	1,950	-----	-----	B
April.....	27,800	2,890	12,300	-----	-----	A
May.....	24,200	7,710	15,700	-----	-----	A
June.....	18,400	4,040	8,880	-----	-----	A
July.....	5,260	2,670	3,670	-----	-----	A
August.....	4,040	2,030	2,730	-----	-----	A
September.....	2,670	1,430	1,990	-----	-----	A
The year.....	27,800	-----	4,780	-----	-----	-----

*Monthly discharge of Chippewa River at Chippewa Falls, Wis.,  
for the years ending Sept. 30, 1888-1914.—(Continued).*

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1908—9						
October.....	2,890	1,580	2,200	-----	-----	A
November.....	2,890	1,750	2,210	-----	-----	A
December.....	-----	-----	1,500	-----	-----	D
January.....	-----	-----	1,360	-----	-----	C
February.....	-----	-----	1,180	-----	-----	C
March.....	-----	-----	1,250	-----	-----	C
April.....	16,600	-----	7,820	-----	-----	B
May.....	26,200	4,760	15,200	-----	-----	A
June.....	21,900	3,800	8,020	-----	-----	A
July.....	9,800	1,830	4,060	-----	-----	A
August.....	6,300	2,030	3,600	-----	-----	A
September.....	3,110	1,750	2,360	-----	-----	A
The year.....	26,200	-----	4,250	-----	-----	-----
1909—10						
October.....	4,110	1,840	3,000	-----	-----	A
November.....	21,300	3,870	9,700	-----	-----	A
December.....	10,500	5,630	6,940	-----	-----	B
January.....	7,000	3,070	5,110	-----	-----	C
February.....	3,300	2,320	2,750	-----	-----	D
March.....	8,130	2,740	4,810	-----	-----	C
April.....	9,580	3,180	5,640	-----	-----	B
May.....	9,870	2,120	5,180	-----	-----	A
June.....	9,290	1,580	2,870	-----	-----	B
July.....	2,740	460	1,200	-----	-----	D
August.....	2,120	860	1,450	-----	-----	C
September.....	3,410	1,090	2,200	-----	-----	B
The year.....	21,300	460	4,240	-----	-----	-----
1910—11						
October.....	2,640	1,300	1,990	-----	-----	B
November.....	1,580	1,300	1,460	-----	-----	C
December.....	1,750	1,300	1,430	-----	-----	C
January.....	2,120	1,580	1,630	-----	-----	D
February.....	1,930	1,580	1,680	-----	-----	D
March.....	6,440	1,580	3,210	-----	-----	C
April.....	8,420	2,530	5,160	-----	-----	B
May.....	11,400	2,740	5,310	-----	-----	B
June.....	10,200	1,300	3,520	-----	-----	B
July.....	2,120	1,090	1,410	-----	-----	C
1911—12						
October.....	33,400	2,220	12,000	-----	-----	B
November (1—16).....	4,350	2,220	2,450	-----	-----	B
December.....	-----	-----	-----	-----	-----	-----
January.....	-----	-----	-----	-----	-----	-----
February.....	-----	-----	-----	-----	-----	-----
March.....	-----	-----	-----	-----	-----	-----
April.....	22,400	4,850	13,100	-----	-----	A
May.....	28,800	6,170	14,700	-----	-----	A
June.....	10,800	2,120	5,030	-----	-----	B
July.....	12,300	1,580	3,090	-----	-----	B



Monthly discharge of Chippewa River at Chippewa Falls, Wis., for the years ending Sept. 30, 1888-1914.—(Concluded).

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1912—13						
April.....	35,000	11,400	18,800	-----	-----	A
May.....	19,100	5,110	9,850	-----	-----	A
June.....	9,870	2,120	5,380	-----	-----	B
July.....	22,400	1,500	8,460	-----	-----	A
August.....	7,840	2,120	3,950	-----	-----	B
September.....	5,630	1,840	3,170	-----	-----	B
1913—14						
October.....	7,120	3,470	4,890	-----	-----	B
November.....	6,280	3,000	4,760	-----	-----	B
December.....	-----	-----	3,490	-----	-----	C
January.....	-----	-----	1,710	-----	-----	D
February.....	-----	-----	1,720	-----	-----	D
March.....	6,840	-----	2,140	-----	-----	C
April.....	33,900	3,830	10,300	-----	-----	A
May.....	30,400	4,550	11,200	-----	-----	A
June.....	31,200	3,830	12,700	-----	-----	A
July.....	21,800	3,590	7,430	-----	-----	A
August.....	10,300	1,980	4,150	-----	-----	B
September.....	13,100	4,080	7,300	-----	-----	A
The year.....	33,900	-----	5,990	-----	-----	-----

Note:—See footnotes to tables of daily discharge.

CHIPPEWA RIVER NEAR EAU CLAIRE, WIS.

- Location.**—At highway bridge 10 miles downstream from Eau Claire, at Shawtown, Wis.
- Records available.**—November 13, 1902, to March 31, 1909. Records also published in Water Supply Papers Nos. 83, 98, 128, 171, 207, 245 and 265.
- Drainage area.**—6,740 square miles.
- Gage.**—Chain; attached to downstream side of wooden highway bridge.
- Control.**—Bed of river sand; liable to shift.
- Discharge measurements.**—Made from bridge to which gage is attached.
- Winter flow.**—Discharge relation affected by ice.
- Regulation.**—Flow at station modified to some extent by operation of power plants and storage reservoirs.

*Daily discharge, in second-feet, of Chippewa River near Eau Claire, Wis., for the years ending Sept. 30, 1903-1909.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1902-3</b>												
1				2,540	1,490	840	9,220	30,200	37,000	11,500	4,750	6,770
2				2,640	2,440	1,570	10,000	31,300	30,900	12,700	5,090	8,180
3				2,260	2,160	1,740	10,900	27,700	24,800	21,800	6,650	6,170
4				2,340	2,080	1,820	12,400	26,500	18,800	32,800	9,220	6,650
5			2,940	2,740	2,160	1,570	12,100	25,400	12,700	39,600	11,000	6,410
6			2,840	1,820	2,080	1,570	10,700	22,900	10,400	39,300	16,200	8,180
7			1,980	2,260	2,260	1,740	11,000	20,600	9,220	33,800	15,800	6,650
8			2,080	2,740	2,260	2,160	12,200	16,500	5,690	24,400	23,500	7,790
9			2,080	2,340	1,980	3,150	14,300	16,400	8,180	20,600	8,830	12,500
10			2,160	2,740	1,740	4,240	12,500	11,500	6,890	17,200	11,200	12,700
11			2,440	3,610	1,660	6,190	11,300	15,600	8,310	19,900	10,200	16,400
12			2,340	3,260	1,740	7,010	13,000	27,100	6,770	19,300	8,960	30,300
13		12,500	2,840	3,490	1,820	9,750	11,600	31,900	16,700	15,500	9,220	34,700
14		20,300	2,440	3,150	1,820	13,200	11,500	32,400	2,070	12,800	9,350	45,200
15		27,500	3,040	3,730	1,820	12,700	11,900	31,900	3,870	11,900	18,200	49,300
16		31,100	2,440	2,540	2,940	9,610	11,900	26,500	4,530	10,200	4,860	51,800
17		29,400	2,540	2,340	2,160	9,610	11,000	21,200	4,530	8,310	9,090	47,800
18		22,700	2,160	2,540	2,260	11,200	8,960	19,100	4,420	15,100	8,700	40,400
19		18,000	2,540	3,260	2,540	26,400	8,700	16,400	3,130	6,890	7,010	32,600
20		14,100	2,440	2,740	2,440	34,500	9,220	16,400	4,970	8,830	4,860	26,400
21		11,200	2,540	2,940	2,340	33,400	9,090	16,900	3,980	7,400	4,970	21,400
22		10,700	2,440	2,640	995	29,600	8,700	17,600	2,930	6,290	11,000	19,300
23		10,600	2,940	2,640	1,660	26,000	8,050	16,000	2,930	6,050	6,050	16,400
24		9,610	3,370	2,840	2,260	21,200	8,050	16,200	2,830	7,010	4,860	11,900
25		8,180	2,540	1,190	2,080	17,200	14,400	18,900	3,030	16,500	4,970	11,300
26		7,530	3,850	2,340	1,820	15,000	8,440	20,300	2,830	5,210	5,210	9,610
27		7,010	4,370	2,160	1,910	13,800	10,000	29,000	8,960	4,750	3,980	11,500
28		6,410	4,370	2,160	1,740	11,800	9,610	39,100	2,930	5,090	5,690	9,750
29		5,930	2,940	1,740		11,300	10,400	45,000	3,760	4,970	6,050	9,750
30			3,730	2,260		10,000	26,000	42,700	4,530	4,970	5,090	9,750
31			2,940	2,440		9,090		38,500		4,860	6,050	
<b>1903-4</b>												
1	9,350	5,930	3,040				7,640	16,700	14,800	13,600	2,660	3,030
2	9,610	5,930	2,440				9,090	15,500	12,100	15,000	3,590	4,260
3	10,600	5,690	3,150				8,410	15,400	12,100	14,200	2,570	13,900
4	19,100	5,810	3,980				8,470	14,200	16,200	13,400	3,540	11,700
5	24,300	5,210	3,150				8,720	13,600	16,700	21,200	2,430	14,300
6	25,800	5,090	2,540				10,600	13,400	23,300	20,500	2,020	11,000
7	25,600	4,970	3,260				12,000	20,500	24,500	18,800	650	11,700
8	23,900	4,860	2,940				17,000	15,000	23,000	16,400	3,130	10,400
9	24,600	4,750	3,150				19,000	16,100	19,600	10,700	4,390	9,090
10	23,100	4,640	3,370				19,100	17,900	16,400	10,300	5,260	13,100
11	19,300	4,640	3,040				19,100	17,500	13,100	10,600	5,060	4,200
12	17,400	4,750	2,940				17,800	16,200	12,600	9,090	2,570	4,880
13	15,800	5,450	3,370				16,800	15,900	12,600	8,720	2,020	5,260
14	15,100	5,330	3,730				16,100	20,800	11,500	6,550	750	5,060
15	14,000	5,570	3,490				15,000	13,300	12,600	4,310	1,410	5,150
16	11,800	4,530	3,370				11,800	14,000	14,500	5,620	2,960	5,260
17	11,600	4,530	3,150				10,800	11,800	7,640	5,060	3,640	10,300
18	10,700	3,030	3,260				11,600	10,700	5,480	5,760	3,200	3,590
19	11,200	3,330	3,260			2,720	14,600	11,800	4,390	5,480	3,540	3,820
20	9,750	2,830	3,150			1,920	14,000	9,770	7,490	4,390	10,600	2,330
21	9,750	2,930	3,150			2,720	13,700	21,100	8,410	5,400	4,800	2,390
22	8,960	3,230	3,610			2,540	11,500	7,790	6,610	4,260	3,460	2,500
23	9,830	4,310	3,370			2,430	13,500	9,450	6,320	3,460	3,280	4,390
24	8,440	4,530	3,610			5,820	15,000	11,100	5,480	1,650	3,080	2,260
25	7,790	4,530	1,980			6,760	19,000	17,400	16,500	1,920	4,120	6,210
26	7,400	4,420	2,740			8,260	22,200	27,000	5,620	3,850	5,200	13,900
27	6,890	4,310	1,060			7,190	21,600	32,300	12,500	3,590	13,800	12,000
28	7,270	3,760	1,490			6,100	17,300	32,900	12,000	4,120	930	9,770
29	7,270	3,650	1,340			4,260	18,600	27,000	12,500	3,800	5,620	19,400
30	7,270	4,310	1,340			4,390	16,800	22,400	11,600	8,260	3,900	8,880
31	6,770		1,060			4,980		17,400		4,120	2,890	

Daily discharge, in second-feet, of Chippewa River near Eau Claire, Wis., for the years ending Sept. 30, 1903-1909.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1904—5</b>												
1	7,820	9,320	1,650				24,800	8,130	6,900	8,130	8,130	7,380
2	4,770	9,480	1,630				18,300	5,740	8,130	9,720	5,620	6,660
3	14,200	9,350	1,650				21,700	5,970	7,380	6,900	2,540	4,610
4	5,900	8,750	650				19,300	7,380	12,000	6,660	2,540	6,430
5	4,930	6,640	2,660				19,000	10,000	25,200	8,390	3,400	8,130
6	4,850	8,130	2,350				20,300	7,630	58,300	19,000	4,170	7,380
7	3,640	7,130	2,310				18,300	9,450		19,600	4,500	6,430
8	17,100	5,060	2,350				16,900	10,300	60,500	22,000	4,060	5,400
9	12,800	5,060	2,540				15,000	9,450	48,200	17,900	4,610	5,620
10	31,800	5,760	2,520				14,100	13,800	35,200	8,650	5,970	4,170
11	40,400	5,090	2,180				13,500	10,900	28,800	11,700	3,730	3,730
12	39,500	4,170	2,480				9,720	11,200	27,200	8,390	4,940	4,720
13	31,100	7,700	2,590				5,620	10,000	22,800	8,390	4,170	8,390
14	24,800	3,640	2,180				5,400	15,900	17,600	9,180	4,720	5,860
15	21,100	7,670	2,480				6,430	20,000	15,600	8,910	5,510	4,830
16	17,300	5,260	2,430				5,620	25,600	13,800	10,300	2,745	5,160
17	13,600	4,930	2,080				6,660	28,400	13,500	8,130	2,740	10,600
18	13,300	5,400	2,160			3,180	8,650	24,800	18,300	7,380	5,280	20,000
19	10,300	4,660	2,910			2,640	5,280	19,600	25,600	7,630	4,500	8,650
20	9,510	4,070	2,370			2,740	4,940	18,300	22,000	7,880	9,720	17,900
21	14,500	4,880	2,480			2,960	4,830	15,000	19,300	6,200	9,450	20,300
22	17,500	4,740	2,540			5,050	4,830	13,200	14,700	7,140	14,100	18,600
23	18,100	6,150	2,960			6,660	4,060	13,200	14,400	5,510	5,860	15,000
24	16,700	3,510	2,570			8,910	4,610	11,400	13,800	6,430	6,660	12,600
25	15,900	3,960	380			10,900	4,610	11,700	12,000	5,620	7,140	7,380
26	12,600	4,390	2,160			14,100	6,900	10,000	9,450	5,160	12,300	12,900
27	13,400	3,720	2,960			19,000	5,050	10,600	10,000	3,730	4,610	6,200
28	10,700	2,960				24,000	3,510	8,650	13,500	2,740	3,950	6,200
29	11,800	2,940				29,600	4,060	8,910	10,900	4,610	10,900	11,200
30	11,000	2,750				31,200	3,620	9,180	5,620	2,740	6,660	6,660
31	9,510					28,400		8,390		2,540	6,660	
<b>1905—6</b>												
1	4,280	5,510	3,400				13,500	11,300	20,000	6,230	5,810	15,400
2	5,160	6,540	4,280				17,500	11,200	7,140	13,700	4,190	3,510
3	10,900	4,940	3,510				22,200	11,700	15,600	8,310	2,540	4,590
4	5,160	5,620	5,400				27,400	13,300	9,730	6,870	2,620	17,400
5	3,730	5,400	2,740				32,300	14,800	7,090	5,050	1,070	6,070
6	3,730	5,620	4,830				28,200	14,000	9,880	5,920	2,520	3,670
7	10,000	6,430	4,830				27,300	15,600	8,770	10,900	12,100	4,900
8	3,950	6,900	5,970				27,700	15,600	17,700	2,640	5,280	4,000
9	3,620	6,320	5,860				29,900	8,710	18,300	4,520	4,690	2,910
10	3,510	6,430	4,720				32,600	9,810	16,300	4,570	12,000	7,220
11	5,050	7,380	4,610				32,400	10,600	12,400	7,040	5,300	4,880
12	11,200	5,050	4,610				30,300	8,900	15,300	4,810	1,330	3,580
13	6,660	5,510	4,610				30,100	8,200	11,100	4,000	8,260	3,640
14	5,970	5,740	4,500				33,400	19,200	10,800	4,350	4,160	4,140
15	4,500	4,390	3,950				38,100	19,900	8,890	4,640	3,200	6,870
16	7,140	6,660	3,070				37,500	14,800	8,600	5,450	2,970	7,920
17	9,580	5,050	3,290				32,600	10,500	7,700	7,330	2,990	11,700
18	10,900	6,200	3,510				28,800	12,200	10,200	4,710	8,800	8,890
19	11,200	5,050	3,290				26,700	13,200	4,570	5,500	4,230	8,170
20	14,200	4,940	3,290				24,800	8,200	3,820	5,810	2,010	7,440
21	12,900	4,830	3,180				23,900	11,300	4,100	5,970	3,080	5,660
22	13,400	3,070	3,620				23,300	6,770	5,500	2,540	3,530	7,220
23	12,500	4,390	2,960				20,400	8,830	14,000	2,580	14,700	7,780
24	11,200	3,950	3,070				19,000	19,200	4,660	4,150	4,710	11,400
25	10,100	4,390	2,010				17,600	8,620	4,140	8,450	19,600	8,480
26	9,180	5,510	3,510				16,500	12,800	6,850	4,810	4,810	7,470
27	8,910	6,320	3,070				14,800	18,300	7,670	3,530	13,400	6,410
28	8,650	5,510	3,180				13,800	22,300	8,940	3,780	5,350	5,550
29	7,630	5,510	2,960				12,600	22,700	15,100	1,140	16,700	7,140
30	7,380	3,950	3,290				10,400	18,300	5,350	3,420	5,480	4,950
31	7,140		3,290					17,100		2,990	5,250	

*Daily discharge, in second-feet, of Chippewa River near Eau Claire, Wis.  
for the years ending Sept. 30, 1903-1909.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1906—7</b>												
1	4,810	10,200	9,090	4,050	-----	-----	32,300	11,000	11,100	5,810	2,140	1,550
2	4,710	9,470	7,530	8,940	-----	-----	31,400	10,800	10,400	5,970	2,440	2,030
3	8,200	9,900	6,050	3,470	-----	-----	22,700	10,600	9,520	6,020	2,340	2,620
4	5,000	9,320	6,600	3,620	-----	-----	22,700	11,300	8,940	5,500	1,570	2,620
5	4,470	8,600	6,660	3,420	-----	-----	25,000	10,900	8,600	7,840	3,010	2,580
6	3,710	8,120	5,400	3,120	-----	-----	24,400	10,000	7,040	13,400	2,740	2,340
7	2,460	3,060	4,640	3,560	-----	-----	23,300	9,550	8,260	12,000	2,700	2,260
8	2,420	8,650	4,230	3,620	-----	-----	20,300	10,200	7,980	8,650	2,840	1,460
9	2,990	8,710	4,210	3,960	-----	-----	18,700	10,100	6,660	7,470	3,140	1,970
10	2,660	9,930	3,730	4,100	-----	-----	17,300	10,100	6,960	6,660	2,910	2,300
11	7,640	8,770	4,710	3,980	-----	-----	15,600	9,930	7,330	5,000	2,700	2,740
12	4,860	9,120	4,860	3,400	-----	-----	14,700	8,140	6,120	4,470	3,980	2,620
13	4,140	8,340	5,400	3,360	-----	-----	14,000	9,150	6,390	4,330	4,280	2,990
14	1,120	8,030	5,150	4,070	-----	3,600	12,300	11,100	6,900	2,700	4,360	2,030
15	3,640	6,420	5,890	4,520	-----	3,580	12,900	16,100	6,870	4,520	4,340	1,800
16	3,820	8,060	4,330	4,280	-----	4,230	11,300	17,400	7,640	6,280	4,360	2,140
17	3,250	7,090	5,630	4,980	-----	3,730	10,000	18,900	7,610	5,760	3,600	2,910
18	4,330	7,640	5,050	3,600	-----	4,000	10,500	17,100	6,500	3,180	1,570	3,080
19	2,840	8,650	5,200	4,450	-----	5,450	9,900	16,400	6,820	4,160	4,230	12,700
20	4,980	8,030	4,190	-----	-----	5,890	8,830	14,600	6,100	4,810	6,500	27,200
21	3,690	8,420	4,140	-----	-----	7,780	7,860	13,900	5,840	3,100	4,620	33,900
22	5,480	5,920	4,380	-----	-----	7,700	8,940	13,200	5,320	5,200	3,910	30,000
23	6,230	6,820	3,510	-----	-----	12,300	7,310	10,900	5,600	5,150	3,290	24,900
24	9,410	6,500	5,020	-----	-----	13,500	9,670	14,500	7,010	4,120	3,360	20,900
25	7,310	4,570	3,080	-----	-----	19,500	9,840	13,900	8,030	4,330	4,400	16,800
26	14,000	6,960	3,120	-----	-----	26,600	10,300	15,300	7,810	3,640	2,780	13,300
27	15,900	8,120	3,800	-----	-----	32,000	10,300	12,900	7,220	3,250	3,250	12,600
28	14,000	9,870	3,620	-----	-----	36,900	9,670	15,700	6,470	3,230	2,930	12,600
29	13,300	10,600	3,640	-----	-----	35,900	10,000	11,500	6,440	4,140	2,760	9,930
30	11,900	10,400	2,700	-----	-----	38,800	9,700	12,000	5,710	4,660	3,080	11,600
31	11,100	-----	3,640	-----	-----	38,900	-----	11,300	-----	2,200	2,340	-----
<b>1907—8</b>												
1	7,580	4,100	2,560	-----	-----	720	3,800	23,000	19,800	5,250	5,000	3,340
2	9,030	5,630	1,080	-----	-----	1,780	4,000	21,100	15,600	5,630	4,710	5,000
3	8,260	4,470	1,320	-----	-----	1,800	4,280	18,500	13,000	5,400	4,000	4,710
4	5,530	4,330	1,210	-----	-----	2,460	5,080	16,800	11,700	4,380	3,870	4,000
5	5,810	2,840	1,160	-----	-----	2,870	3,890	14,700	9,930	4,590	8,090	3,870
6	5,400	4,400	2,380	-----	-----	1,650	4,380	13,600	10,200	5,660	5,330	5,200
7	7,810	6,280	2,640	-----	-----	2,160	7,140	12,700	8,680	5,810	4,050	4,050
8	5,500	5,970	1,080	-----	-----	850	8,030	11,300	9,180	8,310	3,310	3,250
9	4,710	3,600	2,460	-----	-----	2,640	7,890	10,200	11,200	8,710	1,390	1,390
10	4,950	3,710	2,780	-----	-----	1,500	8,540	10,400	13,600	8,540	2,840	1,460
11	5,150	2,260	2,580	-----	-----	1,700	10,500	8,600	11,800	6,440	3,080	1,390
12	3,640	2,700	2,620	-----	-----	2,910	11,400	7,980	10,700	3,340	3,030	1,570
13	3,140	4,100	2,540	-----	-----	4,060	11,600	9,000	12,700	5,200	3,640	1,760
14	4,000	2,740	2,260	-----	-----	3,160	12,100	9,960	15,400	4,330	3,640	1,970
15	5,120	2,820	825	-----	-----	2,660	13,100	10,900	15,400	3,450	5,130	1,870
16	9,350	3,120	1,680	-----	-----	5,660	14,900	11,400	13,000	2,540	5,300	1,670
17	5,150	2,820	2,340	-----	-----	4,060	15,200	11,000	8,970	3,620	2,300	1,300
18	3,420	4,520	190	-----	-----	3,730	14,900	11,100	10,400	3,290	3,600	1,210
19	3,380	3,310	3,060	-----	-----	3,360	15,000	12,100	9,790	2,140	1,670	1,050
20	3,380	3,470	1,700	-----	-----	2,740	16,900	19,300	8,800	5,000	1,500	1,180
21	4,660	3,750	1,990	-----	-----	2,580	16,300	20,700	8,800	6,770	1,570	1,840
22	3,690	3,640	690	-----	-----	2,840	15,100	20,800	9,760	4,100	1,570	1,810
23	3,290	3,340	1,210	-----	-----	4,400	13,900	22,800	8,030	3,940	4,380	1,610
24	5,050	2,910	2,420	-----	-----	5,710	13,300	25,600	9,640	2,990	4,050	1,630
25	4,880	3,510	750	-----	-----	5,450	15,000	24,100	15,100	8,120	1,780	1,460
26	4,470	3,250	1,950	-----	-----	5,200	18,100	26,300	9,090	4,330	2,240	1,180
27	2,740	3,290	1,630	-----	-----	4,950	21,700	27,800	7,420	3,290	2,840	1,080
28	1,890	2,780	1,610	-----	-----	4,710	26,600	23,700	6,950	4,280	1,720	930
29	3,270	2,990	524	-----	-----	4,470	28,900	18,800	14,400	4,810	1,590	990
30	3,290	2,660	1,870	-----	-----	4,230	26,900	13,300	5,350	8,030	1,500	1,060
31	3,340	-----	1,870	-----	-----	4,000	-----	19,400	-----	4,030	1,520	-----

Daily discharge, in second-feet, of Chippewa River near Eau Claire, Wis.,  
for the years ending Sept. 30, 1903-1909.—(Concluded).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1908—9												
1	1,330	2,460	1,950									
2	1,250	2,520	1,280									
3	1,530	2,600	1,480									
4	1,680	2,500	1,700									
5	1,740	2,500	1,350			1,760						
6	1,680	2,380	780			1,720						
7	1,680	2,380	1,080			1,800						
8	1,520	810	1,430			3,380						
9	2,930	1,190	1,800			3,490						
10	2,620	1,930	2,140			3,490						
11	900	1,390	1,910			2,640						
12	1,610	2,220	1,910			2,620						
13	1,720	2,200	1,080			1,800						
14	1,460	2,300	2,030			1,460						
15	1,370	1,860	2,050			1,650						
16	1,680	1,150	3,380			1,760						
17	1,740	1,150	1,910			2,030						
18	1,070	2,640	1,780			1,760						
19	1,070	3,160	1,530			1,720						
20	1,230	3,270	870			1,570						
21	1,520	3,380	1,190			1,430						
22	1,570	3,060	2,320			1,910						
23	1,840	3,060	2,240			2,040						
24	1,570	2,160	1,350			2,420						
25	1,350	2,320	980			1,630						
26	1,630	2,910	750			1,910						
27	2,050	2,340	2,060			2,440						
28	2,420	2,760	1,760			2,260						
29	2,420	2,340	2,240			2,260						
30	2,890	2,280	1,800			2,460						
31	2,660		1,800			2,660						

Monthly discharge of Chippewa River near Eau Claire, Wis.,  
for the years ending Sept. 30, 1903-1909.  
[Drainage area, 6740 square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1902—3						
November (13—29)			14,800	2.20	1.39	
December (5—31)			2,790	.414	.41	
January	3,730	1,190	2,590	.384	.44	
February	2,940	995	2,020	.300	.31	
March	34,500	840	11,600	1.72	1.98	
April	26,000	8,050	11,200	1.66	1.85	
May	45,000	11,500	24,800	3.68	4.24	
June	37,000	2,070	8,720	1.29	1.44	
July	33,800	4,860	14,700	2.18	2.51	
August	23,500	3,980	8,600	1.28	1.48	
September	51,800	6,170	19,600	2.90	3.24	

Monthly discharge of Chippewa River near Eau Claire, Wis.,  
for the years ending Sept. 30, 1903-1909.—(Continued).

Month,	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square miles		
1903—4						
October.....	25,800	6,770	13,500	2.00	2.31	.....
November.....	5,930	2,830	4,560	.677	.76	.....
December.....	3,980	1,060	2,860	.424	.49	.....
January.....						.....
February.....						.....
March (19—31).....			4,620	.686	.33	.....
April.....	22,200	7,640	14,600	2.17	2.42	.....
May.....	32,900	7,790	17,000	2.52	2.90	.....
June.....	24,500	4,390	12,600	1.87	2.09	.....
July.....	21,200	1,650	8,520	1.26	1.45	.....
August.....	13,800	650	3,780	.561	.65	.....
September.....	19,400	2,260	7,800	1.16	1.29	.....
1904—5						
October.....	40,400	4,770	15,200	2.26	2.61	.....
November.....	9,480	2,750	5,580	.828	.92	.....
December (1—27).....			2,230	.331	.33	.....
January.....						.....
February.....						.....
March (18—31).....	31,200	2,640	13,500	2.00	1.04	.....
April.....	24,800	3,510	10,200	1.51	1.68	.....
May.....	28,400	5,740	12,700	1.88	2.17	.....
June (29 days).....	60,500	5,620	20,400	3.03	3.26	.....
July.....	22,000	2,540	8,630	1.28	1.48	.....
August.....	14,100	2,540	5,870	.871	1.00	.....
September.....	20,300	3,730	8,970	1.33	1.48	.....
1905—6						
October.....	14,200	3,510	8,040	1.19	1.37	.....
November.....	7,380	3,070	5,440	.807	.90	.....
December.....	5,970	2,010	3,820	.567	.65	.....
January.....						.....
February.....						.....
March.....						.....
April.....	38,100	10,400	24,900	3.69	4.12	.....
May.....	22,700	6,770	13,500	2.00	2.31	.....
June.....	20,000	3,820	10,000	1.48	1.65	.....
July.....	13,700	1,140	5,350	.794	.92	.....
August.....	19,600	1,330	6,220	.923	1.06	.....
September.....	17,400	2,910	6,970	1.03	1.15	.....
1906—7						
October.....	15,900	1,120	6,270	0.93	1.07	.....
November.....	10,600	4,570	8,310	1.23	1.37	.....
December.....	9,090	2,700	4,810	.714	.82	.....
January (1—19).....			4,130	.613	.43	A
February.....						.....
March (14—31).....	38,900	3,580	16,700	2.48	1.66	A
April.....	32,300	7,310	15,100	2.24	2.50	A
May.....	18,900	8,140	12,500	1.85	2.13	A
June.....	11,100	5,320	7,310	1.08	1.20	A
July.....	13,400	2,200	5,400	.801	.92	A
August.....	6,500	1,570	3,310	.491	.57	A
September.....	33,900	1,460	8,930	1.32	1.47	A

NOTE:—Monthly discharge, November, 1903, to December, 1905, differs from that previously published in U. S. Geol. Survey in Water-Supply Papers 98, 128 and 171 as results are here published with three significant figures.



*Monthly discharge of Chippewa River near Eau Claire, Wis.,  
for the years ending Sept. 30, 1903-1909.—(Concluded).*

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1907—8						
October.....	9,350	1,890	4,870	0.723	0.83	A
November.....	6,280	2,260	3,640	.540	.61	A
December (a).....	3,060	190	1,770	.265	.30	C
January (b).....			2,100	.312	.36	D
February (b).....			2,200	.326	.35	D
March.....	5,710	720	3,260	.484	.56	A
April.....	28,900	3,800	12,900	1.91	2.13	A
May.....	27,800	7,980	16,400	2.43	2.80	A
June.....	19,800	5,350	11,100	1.65	1.84	A
July.....	8,710	2,140	5,040	.748	.86	A
August.....	8,090	1,390	3,230	.479	.55	A
September.....	5,200	930	2,160	.320	.36	B
1908—9						
October.....	2,930	900	1,730	0.257	0.30	B
November.....	3,380	810	2,310	.343	.38	B
December (c).....	3,380	750	1,680	.249	.29	C
January (d).....			1,730	.257	.30	D
February (d).....			1,500	.223	.23	D
March (5—31).....	3,490		2,360	.350	.40	B

(a) Open-water rating curve applied for December, 1907; discharge probably somewhat too high.

(b) Discharge Jan. 1, to Feb. 24, 1908, based on two measurements and the discharge at Chippewa Falls.

(c) Open-channel rating applied for December, 1908; discharge probably somewhat too high.

(d) Monthly means for January and February, 1909, were obtained by comparison with Chippewa Falls.

**WEST FORK OF CHIPPEWA RIVER AT LESSARD'S,  
NEAR WINTER, WIS.**

**Location.**—At Lessard's about 1 mile above mouth of East Fork, coming in from the left, and 8 miles by road northwest of the post office of Winter.

**Records available.**—December 22, 1911, to September 30, 1913.

**Drainage area.**—485 square miles.

**Gage.**—Metal staff attached to log boom on left bank of river, installed January, 27, 1914; zero 3.75 feet below zero of wooden staff gage, maintained December 22, 1911, to January 27, 1914. Prior to January 27, 1914, the gage was read once daily to nearest half inch; after this date once daily to nearest half-tenth of a foot; limits of use: half-tenths below 6.5 feet, and tenths above 6.5 feet.

**Control.**—Heavy gravel; not likely to shift.

**Winter flow.**—Discharge relation affected by ice; flow determined by discharge measurements made through the ice.

**Regulation.**—No dams used for the purpose of storing water are now in operation above the gaging station.

**Accuracy.**—Records good except during the summer of 1914 when logs lodged on the control and caused backwater at the gage. Estimates of flow during this period based on three measurements made May 3, June 8, and September 16, 1914.

**Cooperation.**—Records December 22, 1911, to January 27, 1914, furnished through the courtesy of the Chippewa & Flambeau Improvement Co., which has also paid the gage reader to date.

Discharge measurements of West Fork of Chippewa River at Lessards, near Winter, Wis., during the years ending Sept. 30, 1912-1914.

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet.
1911			
Oct. 21 (a)	C. B. Stewart	5.92	700
1912			
Feb. 23 (b)	J. A. Cutler	5.67	127
April 19	J. A. Cutler	6.04	782
July 8	C. B. Stewart	4.92	193
1913			
May 4	C. B. Stewart	6.23	1,040
July 7	C. B. Stewart	6.12	862
1914			
Dec. 5	Stewart and Hoyt	5.81	599
Jan. 28 (c)	H. C. Beckman	5.53	191
Mar. 7 (d)	O. A. Steller	5.75	143
May 3 (e)	M. F. Rather	6.84	1,310
May 3 (e)	M. F. Rather	6.83	1,340
June 8 (e)	M. F. Rather	6.10	719
Sept. 16 (e)	M. F. Rather	6.17	644

(a) Velocity obtained by means of rod floats.  
(b) Complete ice cover.  
(c) Complete ice cover at measuring section; partly open at control.  
(d) Complete ice cover at control section.  
(e) Logs and brush on control section.  
NOTE:—Discharge measurements from Oct. 21, 1911, to July 7, 1913, made for the Chippewa and Flambeau Improvement Co., by and under the direction of C. B. Stewart, consulting engineer, Madison, Wis.

Daily gage height, in feet, of West Fork of Chippewa River at Lessards, near Winter, Wis., for the years ending Sept. 30, 1912-1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1912												
1				5.65	5.6	5.7	5.85	6.1	5.75	5.25	4.75	5.5
2				5.65	5.6	5.7	5.65	6.0	5.75	5.15	4.85	5.5
3				5.65	5.6	5.7	5.65	6.1	5.75	5.1	4.85	5.45
4				5.65	5.6	5.7	5.65	6.1	5.75	5.1	4.9	5.4
5				5.65	5.6	5.7	5.7	6.15	5.75	5.0	4.9	5.4
6				5.65	5.6	5.7	5.7	6.15	5.9	5.0	5.0	5.5
7				5.65	5.65	5.7	5.7	6.35	5.9	4.95	5.0	5.55
8				5.65	5.65	5.7	5.7	6.6	5.9	4.95	5.1	5.55
9				5.65	5.75	5.65	5.7	6.6	5.85	4.9	5.1	5.6
10				5.65	5.75	5.65	5.75	6.6	5.85	4.9	5.1	5.65
11				5.6	5.75	5.65	5.75	6.6	5.85	4.9	5.25	5.65
12				5.6	5.75	5.7	6.0	6.6	5.85	4.9	5.35	5.65
13				5.6	5.75	5.7	6.1	6.4	5.85	4.9	5.7	5.6
14				5.6	5.7	5.7	6.1	6.25	5.85	4.9	5.7	5.55
15				5.6	5.65	5.7	6.25	6.1	5.9	4.8	5.7	5.55
16				5.6	5.65	5.7	6.25	6.1	5.9	4.8	5.7	5.4
17				5.6	5.65	5.7	6.35	6.0	5.75	4.8	5.75	5.4
18				5.6	5.65	5.7	6.1	6.0	5.75	4.8	5.75	5.4
19				5.6	5.65	5.7	6.0	6.0	5.75	4.75	5.75	5.35
20				5.6	5.7	5.7	6.0	6.0	5.75	4.75	5.75	5.35
21				5.6	5.7	5.7	6.0	5.9	5.75	4.75	5.85	5.35
22			5.65	5.6	5.7	5.7	6.1	5.9	5.65	4.75	5.85	5.35
23			5.7	5.6	5.65	5.7	6.1	5.9	5.6	4.9	5.75	5.3
24			5.65	5.65	5.7	5.7	6.1	5.85	5.6	4.9	5.75	5.3
25			5.65	5.65	5.7	5.7	6.0	5.85	5.5	4.9	5.75	5.25
26			5.65	5.65	5.7	5.7	6.0	5.85	5.5	5.1	5.75	5.25
27			5.65	5.6	5.7	5.75	6.0	5.85	5.4	5.1	5.7	5.25
28			5.65	5.6	5.7	5.75	6.0	5.85	5.35	5.0	5.7	5.25
29			5.65	5.6	5.7	5.75	6.1	5.85	5.25	4.85	5.65	5.25
30			5.65	5.6		5.75	6.1	5.85	5.25	4.85	5.6	5.25
31			5.65	5.6		5.75		5.75		4.75	5.6	



Daily gage height, in feet, of West Fork of Chippewa River at Lessards, near Winter, Wis., for the years ending Sept. 30, 1912-1914.—(Concluded).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1912-13</b>												
1	5.2	5.0	5.2	5.6	5.55	5.7	6.15	6.35	6.35	5.7	5.9	5.8
2	5.2	5.0	5.2	5.6	5.55	5.7	6.15	6.25	6.35	5.7	5.9	5.8
3	5.2	5.0	5.2	5.6	5.6	5.7	6.2	6.25	6.35	5.85	5.9	5.8
4	5.2	5.0	5.2	5.6	5.6	5.75	6.2	6.25	6.4	6.0	5.9	5.8
5	5.2	5.0	5.25	5.6	5.6	5.75	6.15	6.25	6.4	6.1	5.85	5.8
6	5.2	5.05	5.15	5.6	5.6	5.75	6.15	6.15	6.6	6.1	5.85	5.8
7	5.2	5.05	5.1	5.6	5.6	5.7	6.15	6.1	6.6	6.15	5.75	5.75
8	5.15	5.05	5.1	5.6	5.6	5.7	6.15	6.0	6.6	6.15	5.75	5.65
9	5.15	5.1	5.25	5.6	5.6	5.7	6.15	6.0	6.8	6.25	5.75	5.65
10	5.15	5.15	5.35	5.6	5.6	5.7	6.15	5.9	6.8	6.25	5.65	5.65
11	5.15	5.1	5.4	5.5	5.6	5.7	6.2	5.85	6.8	6.35	5.55	5.7
12	5.15	5.1	5.6	5.5	5.6	5.75	6.2	5.85	6.6	6.35	5.55	5.6
13	5.15	5.05	5.6	5.5	5.6	5.75	6.25	5.75	6.6	6.35	5.55	5.6
14	5.15	5.05	5.5	5.5	5.55	5.75	6.3	5.65	6.6	6.35	5.45	5.6
15	5.15	5.05	5.5	5.5	5.55	5.75	6.35	5.65	6.6	6.25	5.4	5.6
16	5.2	5.1	5.4	5.4	5.6	5.75	6.4	5.6	6.5	6.25	5.3	5.55
17	5.2	5.15	5.35	5.5	5.6	5.75	6.45	5.6	6.5	6.25	5.3	5.55
18	5.2	5.15	5.35	5.5	5.6	5.85	6.6	5.6	6.4	6.35	5.3	5.55
19	5.2	5.15	5.35	5.5	5.6	5.85	6.6	5.65	6.35	6.35	5.4	5.45
20	5.2	5.15	5.4	5.5	5.6	5.85	6.7	5.75	6.25	6.35	5.5	5.45
21	5.2	5.15	5.45	5.5	5.65	5.85	6.8	5.85	6.15	6.25	5.55	5.45
22	5.2	5.15	5.5	5.5	5.65	5.85	6.8	5.9	6.15	6.15	5.65	5.45
23	5.2	5.15	5.55	5.5	5.65	5.85	6.8	6.05	6.1	6.1	5.85	5.45
24	5.25	5.15	5.6	5.5	5.7	5.75	6.8	6.1	6.0	6.1	6.05	5.4
25	5.25	5.2	5.6	5.5	5.7	5.75	6.8	6.1	5.9	6.0	6.0	5.5
26	5.25	5.25	5.6	5.5	5.7	5.85	6.8	6.15	5.85	6.0	5.95	5.55
27	5.25	5.25	5.6	5.5	5.7	5.85	6.6	6.15	5.75	6.0	5.95	5.6
28	5.25	5.25	5.6	5.5	5.7	5.9	6.6	6.25	5.65	6.0	5.9	5.65
29	5.25	5.2	5.6	5.5	-----	5.95	6.5	6.25	5.6	6.0	5.85	5.75
30	5.25	5.0	5.6	5.5	-----	6.0	6.4	6.25	5.6	5.95	5.85	5.75
31	5.2	-----	5.6	5.5	-----	-----	-----	6.35	-----	5.85	5.8	-----
<b>1913-14</b>												
1	5.75	5.75	5.75	5.5	-----	5.8	-----	6.8	6.1	6.6	5.9	6.0
2	5.75	5.75	5.75	5.5	-----	5.7	5.2	6.8	6.1	6.6	5.85	6.0
3	5.75	5.75	5.8	5.4	-----	5.7	5.2	6.8	6.1	6.5	5.85	6.1
4	5.75	5.75	5.8	5.4	6.7	5.7	5.25	6.8	6.1	6.45	5.85	6.1
5	5.75	5.75	5.85	5.35	6.7	5.7	5.25	6.8	6.15	6.45	5.85	6.1
6	5.75	5.75	5.65	5.35	6.7	5.7	5.25	6.8	6.15	6.45	5.85	6.1
7	5.65	5.75	5.65	5.4	5.8	5.7	5.25	6.8	6.15	6.35	5.7	6.1
8	5.65	5.75	5.65	5.4	5.8	5.75	5.25	6.8	6.1	6.3	5.7	6.1
9	5.75	5.75	5.65	5.4	5.5	5.75	5.3	6.7	6.15	6.2	5.7	6.1
10	5.75	5.75	5.65	5.4	5.65	5.75	5.3	6.7	6.25	6.2	5.7	6.1
11	5.75	5.75	5.65	5.5	5.6	5.75	5.3	6.7	6.0	6.3	5.7	6.0
12	5.75	5.75	5.65	5.35	5.65	5.75	5.3	6.6	5.9	6.3	5.65	6.0
13	5.65	5.75	5.65	5.35	5.65	5.8	5.3	6.6	5.8	6.2	5.65	6.1
14	5.65	5.75	5.5	5.35	5.6	5.85	5.3	6.3	5.75	6.2	5.6	6.1
15	5.65	5.75	5.5	5.35	5.7	5.85	5.4	6.25	5.75	6.2	5.6	6.1
16	5.6	5.75	5.5	5.35	5.65	5.85	5.4	6.25	5.7	6.2	5.6	6.15
17	5.55	5.75	5.5	5.4	5.6	5.85	5.45	6.25	5.7	6.2	5.6	6.2
18	5.6	5.75	5.4	5.4	5.65	5.9	5.5	6.2	5.65	6.2	5.65	6.2
19	5.65	5.65	5.4	5.4	5.7	5.9	5.6	6.2	5.7	6.15	5.7	6.2
20	5.65	5.65	5.4	5.4	-----	5.8	5.6	6.1	5.65	6.15	5.8	6.2
21	5.65	5.65	5.4	5.35	5.65	5.8	5.65	5.9	5.6	6.15	5.8	6.3
22	5.5	5.65	5.4	5.35	5.65	5.5	5.6	5.9	5.65	6.15	5.8	6.3
23	5.5	5.65	6.0	5.35	5.6	5.5	5.8	5.9	5.7	6.15	5.8	6.3
24	5.5	5.65	5.75	5.4	5.7	5.4	5.9	5.95	5.75	6.15	5.8	6.3
25	5.5	5.75	5.85	5.5	5.7	5.4	5.95	6.0	5.75	6.15	5.8	6.3
26	5.5	5.75	5.4	5.5	5.7	5.5	6.0	6.1	5.85	6.15	5.8	6.3
27	5.6	5.75	5.6	5.6	5.7	5.5	6.2	6.0	6.2	6.1	5.85	6.3
28	5.65	5.7	5.75	5.55	5.8	5.5	6.4	6.0	6.3	6.1	5.85	6.3
29	5.75	5.7	5.5	5.6	-----	5.3	6.7	6.1	6.5	6.1	5.85	6.3
30	5.75	5.75	5.65	-----	-----	5.3	6.8	6.1	6.5	6.1	6.1	6.3
31	5.75	-----	5.4	-----	-----	5.3	-----	6.1	-----	6.0	6.0	-----

NOTE:—Discharge relation probably affected by ice Dec. 22, 1911, to Mar. 31, 1912, Jan. 1, to Mar. 31, 1913, and Dec. 23, 1913, to Apr. 5, 1914.

Daily discharge, in second-feet, of West Fork of Chippewa River at Lessards, near Winter, Wis., for the years ending Sept. 30, 1912-1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1912												
1							632	840	562	300	156	415
2							500	750	562	262	178	415
3							500	840	562	245	178	390
4							500	840	562	245	190	365
5							530	892	652	215	190	365
6							530	892	670	215	215	415
7							530	1,140	670	202	215	442
8							530	1,580	670	202	245	442
9							530	1,580	632	190	245	470
10							562	1,580	632	190	245	500
11							562	1,580	632	190	300	500
12							750	1,580	632	190	342	500
13							840	1,220	632	190	530	470
14							840	1,010	632	190	530	442
15							1,010	840	670	167	530	442
16							1,010	840	670	167	530	365
17							1,140	750	562	167	562	365
18							840	750	562	167	562	365
19							750	750	562	156	562	342
20							750	750	562	156	562	342
21							750	670	562	156	632	342
22							840	670	500	156	632	342
23							840	670	470	190	562	320
24							840	632	470	190	562	320
25							750	632	415	190	562	300
26							750	632	415	245	562	300
27							750	632	365	245	530	300
28							750	632	342	215	530	300
29							840	632	300	178	500	300
30							840	632	300	178	470	300
31								562		156	470	
1912-13												
1	280	215	280				892	1,140	1,140	530	670	595
2	280	215	280				892	1,010	1,140	530	670	595
3	280	215	280				945	1,010	1,140	632	670	595
4	280	215	280				945	1,010	1,220	750	670	595
5	280	215	300				892	1,010	1,220	840	632	595
6	280	230	262				892	892	1,580	840	632	595
7	280	230	245				892	840	1,580	892	562	562
8	262	230	245				892	750	1,580	892	562	500
9	262	245	300				892	750	1,960	1,010	562	500
10	262	262	342				892	670	1,960	1,010	500	500
11	262	245	365				945	632	1,960	1,140	442	530
12	262	245	470				945	632	1,580	1,140	442	470
13	262	230	470				1,010	562	1,580	1,140	442	470
14	262	230	415				1,070	500	1,580	1,140	390	470
15	262	230	415				1,140	500	1,580	1,010	365	470
16	280	245	365			562	1,220	470	1,400	1,010	320	442
17	280	262	342			562	1,310	470	1,400	1,010	320	442
18	280	262	342			632	1,580	470	1,220	1,140	320	442
19	280	262	342			632	1,580	500	1,140	1,140	365	390
20	280	262	365			632	1,770	562	1,010	1,140	415	390
21	280	262	390			632	1,960	632	892	1,010	442	390
22	280	262	415			632	1,960	670	892	892	500	390
23	280	262	442			632	1,960	795	840	840	632	390
24	300	262	470			562	1,960	840	750	840	795	365
25	300	280	470			562	1,960	840	670	750	750	415
26	300	300	470			632	1,960	892	632	750	710	442
27	300	300	470			632	1,580	892	562	750	710	470
28	300	300	470			670	1,580	1,010	500	750	670	500
29	300	280	470			710	1,400	1,010	470	750	632	562
30	300	215	470			750	1,220	1,010	470	710	632	562
31	280		470			800		1,140		632	595	

*Daily discharge, in second-feet, of West Fork of Chippewa River at Lessards, near Winter, Wis., for the years ending Sept. 30, 1912-1914.—(Concluded).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1913-14												
1	562	562	562					1,260	720	1,120	470	530
2	562	562	562					1,260	720	1,120	445	530
3	562	562	595					1,260	720	990	445	600
4	562	562	595					1,260	720	930	445	600
5	562	562	632					1,260	765	930	445	600
6	562	562	500				300	1,260	765	930	445	600
7	500	562	500				300	1,260	765	820	370	600
8	500	562	500				300	1,260	720	770	370	600
9	562	562	500				320	1,100	765	680	370	600
10	562	562	500				320	1,100	865	680	370	600
11	562	562	500				320	1,100	630	770	370	530
12	562	562	500				320	960	560	770	345	530
13	500	562	500				320	960	495	680	345	600
14	500	562	415				320	920	468	680	320	600
15	500	562	415				365	865	468	680	320	600
16	470	562	415				365	865	440	680	320	640
17	442	562	415				390	865	440	680	320	680
18	470	562	365				415	810	412	680	345	680
19	500	500	365				470	810	440	640	370	680
20	500	500	365				470	720	412	640	420	680
21	500	500	365				500	560	385	640	420	770
22	415	500	365				470	560	412	640	420	770
23	415	500					595	560	440	640	420	770
24	415	500					670	595	468	640	420	770
25	415	562					710	630	468	640	420	770
26	415	562					750	720	528	640	420	770
27	470	562					760	630	810	600	445	770
28	500	530					760	630	920	600	445	770
29	562	530					1,100	720	1,180	600	445	770
30	562	562					1,260	720	1,180	600	600	770
31	562							720		530	530	

NOTE:—Daily discharge Apr. 1, 1912, to Apr. 26, 1914, computed from a rating curve well defined between 190 and 1,220 second-feet (gage heights, 4.9 and 6.4 feet). Daily discharge, Apr. 27, to Sept. 30, 1914, estimated, on account of log jams, from discharge measurements made on May 3, June 8, and Sept. 16, 1914.

Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements, and climatologic records as follows: Dec. 23 to 31, 1913, 240 second-feet; Jan. 1-31, 230 second-feet; Feb. 11, 134 second-feet; Feb. 21-28, 135 second-feet; Mar. 1-10, 143 second-feet; Mar. 11-20, 173 second-feet; Mar. 21-31, 221 second-feet; and April 1-5, 270 second-feet.

Monthly discharge of West Fork of Chippewa River at Lessards, near Winter, Wis., for the years ending Sept. 30, 1912-1914.  
[Drainage area, 485 square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1912						
April.....	1,140	500	726	1.50	1.67	A
May.....	1,580	562	903	1.86	2.14	A
June.....	670	300	545	1.12	1.25	B
July.....	300	156	197	.406	.47	B
August.....	632	156	422	.870	1.00	B
September.....	500	300	383	.790	.88	B
1912—13						
October.....	300	262	280	0.577	0.67	B
November.....	300	215	249	.513	.57	B
December.....	470	245	378	.779	.90	C
January.....						
February.....						
March.....						
April.....	1,960	892	1,300	2.68	2.99	B
May.....	1,140	470	778	1.60	1.84	B
June.....	1,960	470	1,190	2.45	2.73	B
July.....	1,140	530	891	1.84	2.12	A
August.....	795	320	549	1.13	1.30	A
September.....	595	365	488	1.01	1.13	A
1913—14						
October.....	562	415	508	1.05	1.21	B
November.....	562	500	547	1.13	1.26	A
December.....	632		408	.837	.96	C
January.....			230	.474	.55	C
February.....			149	.307	.32	D
March.....			180	.371	.43	C
April.....	1,260		474	.977	1.09	C
May.....	1,260	560	910	1.88	2.17	C
June.....	1,180	385	636	1.31	1.46	C
July.....	1,120	530	730	1.51	1.74	C
August.....	600	320	408	.841	.97	C
September.....	770	530	659	1.36	1.52	C
The year.....	1,260		488	1.01	13.68	

FLAMBEAU RIVER NEAR BUTTERNUT, WIS.

**Location.**—About 6 miles northeast of Butternut, Wis., and 7 miles up-stream from Park Falls, Wis.

**Records available.**—July 30 to September 30, 1914.

**Drainage area.**—660 square miles.

**Gage.**—Vertical cast-iron staff gage attached to posts driven into the right bank of river. Gage read twice daily; morning and evening, to quarter tenths. Limits of use: Hundredths below 3.0 feet, half tenths between 3.0 and 4.0 feet, and tenths above 4.0 feet.

**Control.**—The head of Schultz rapids about 1700 feet below the gage; probably permanent.

**Discharge measurements.**—Made from a cable about 1500 feet down-stream from the gage.

**Winter flow.**—Discharge relation affected by ice during the winter months.

**Regulation.**—The flow at the station is controlled by storage in reservoirs of the Chippewa & Flambeau Improvement Company; of these reser-voirs the one at Rest Lake is the largest.

Data insufficient for estimates of discharge.

Discharge Measurements of Flambeau River near Butternut, Wis., during the year ending Sept. 30, 1914.

Date	Made by	Gage height	Discharge
1914		Feet	Sec.-feet
Feb. 26 (a)	G. H. Canfield		401
July 30 (b)	H. C. Beckman	2.68	730
Sept. 17	M. F. Rather	3.68	1,210

(a) Gage not installed on this date.  
(b) Measurement made from a boat.

Daily gage height, in feet, of Flambeau River near Butternut, Wis., for the year ending Sept. 30, 1914.  
[Mathilda Schultz, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1											2.62	3.15
2											2.50	3.15
3											2.38	3.1
4											2.36	3.1
5											2.36	3.1
6											2.26	3.05
7											2.26	3.05
8											2.18	2.92
9											2.10	2.86
10											2.88	2.70
11											3.1	2.80
12											3.1	2.82
13											3.25	2.81
14											3.25	3.0
15											3.15	3.45
16											3.3	3.5
17											3.4	3.7
18											3.45	3.7
19											3.35	3.7
20											3.2	3.6
21											3.2	3.5
22											3.1	3.85
23											3.25	3.7
24											3.35	3.7
25											3.3	3.6
26											3.3	3.55
27											3.35	3.45
28											3.2	3.35
29											3.15	3.3
30										2.71	2.99	3.1
31										2.73	2.92	

FLAMBEAU RIVER NEAR LADYSMITH, WIS.

**Location.**—At H. J. Cornelissen’s farm about 6 miles by road northeast of Ladysmith, 20 miles above the mouth of the river and 19 miles below the mouth of Dore Flambeau River, coming in from the right.

**Records available.**—January 2 to September 30, 1914.

**Drainage area.**—1,940 square miles.

**Gage.**—Chain; fastened to a cantilever arm supported by two trees on the left bank of the river on the farm of H. J. Cornelissen. Gage read twice daily, morning and afternoon, to quarter tenths; limits of use: hundredths below 4.0 feet, half tenths between 4.0 and 5.0 feet, and tenths above 5.0 feet.

**Control.**—Heavy gravel and rock; probably permanent.

**Discharge measurements.**—Made from a standard car and cable across the river about 200 feet below the gage.

**Winter flow.**—Discharge relation affected by ice; estimates of flow based on discharge measurements made through the ice.

**Regulation.**—The Chippewa & Flambeau Improvement Co. operates storage reservoirs on Rest Lake; also smaller reservoirs on Manitowish and Turtle Rivers and Bear Creek. Weekly fluctuations at the gage are caused by the operation of power plants at Park Falls and by the storage reservoirs; no daily fluctuation has been observed.

**Accuracy.**—Gage height records reliable. Data insufficient for estimates of discharge.

*Discharge measurements of Flambeau River near Ladysmith, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
Feb. 16 (a) -----	Hoyt and Canfield -----	5.0	836
Feb. 16 (b) -----	Hoyt and Canfield -----	5.0	752
Mar. 10 (b) -----	O. A. Stellar -----	4.56	594
April 13 (c) -----	G. H. Canfield -----	5.18	1,350
July 13 -----	H. C. Beckman -----	3.38	2,100
Sept. 12 -----	H. C. Beckman -----	3.33	2,090

(a) Measurement made under complete ice cover about one-fourth mile below paper mill at Ladysmith.

(b) Measurement made under complete ice cover about 2 miles below gage.

(c) Measurement made under complete ice cover at gage section.

*Daily gage height, in feet, of Flambeau River near Ladysmith, Wis.,  
for the year ending Sept. 30, 1914.*

[H. J. Cornelissen, observer]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1 -----					5.2	4.5	5.4	6.9	3.90	5.6	2.80	3.32
2 -----				5.3	5.4	4.9	5.4	6.2	3.58	5.2	2.61	3.51
3 -----				5.6	4.80	4.7	5.5	6.1	3.35	5.1	2.61	3.70
4 -----				5.6	5.4	4.85	5.5	5.6	4.2	4.8	2.59	3.68
5 -----				5.2	5.2	4.85	5.4	5.3	4.15	4.4	2.40	3.55
6 -----				5.2	5.2	4.8	5.4	5.2	4.35	4.3	2.32	3.46
7 -----				5.0	4.90	4.9	5.2	4.8	4.0	4.2	2.35	3.38
8 -----				5.5	5.0	4.8	5.2	4.85	3.90	3.44	2.41	3.29
9 -----				5.5	5.4	5.0	5.0	4.85	3.62	3.22	2.29	3.18
10 -----				5.3	4.70	4.6	5.0	4.9	3.40	3.11	2.34	3.05
11 -----				5.3	5.0	4.3	4.90	4.7	3.16	2.99	2.39	3.16
12 -----				5.0	5.1	5.0	4.75	4.65	2.90	2.96	2.72	3.30
13 -----				4.70	4.95	5.1	5.0	4.65	2.78	3.42	2.95	3.42
14 -----				5.3	5.0	4.7	4.9	4.5	2.68	3.65	3.00	3.51
15 -----				5.0	4.8	5.0	5.4	4.4	2.60	3.76	3.09	3.90
16 -----				4.90	5.0	5.2	5.5	4.5	2.70	3.74	3.18	4.4
17 -----				5.0	4.6	4.85	4.75	4.5	2.46	3.63	3.22	4.45
18 -----				5.3	4.75	5.0	3.85	4.5	2.50	3.38	3.30	4.7
19 -----				5.4	5.0	5.0	4.5	4.2	2.56	3.28	3.16	4.65
20 -----				5.3	4.9	5.2	4.3	4.7	2.70	3.15	3.72	4.25
21 -----				4.85	4.6	5.0	4.4	4.35	2.60	3.04	3.70	4.15
22 -----				5.4	4.85	4.8	4.5	4.4	2.44	2.94	3.50	4.05
23 -----				5.1	5.0	4.75	4.0	3.55	2.54	2.86	3.56	4.4
24 -----				5.1	4.4	4.5	3.95	3.46	3.44	2.81	3.86	4.4
25 -----				5.0	4.8	4.95	4.7	3.48	5.0	3.29	4.05	4.3
26 -----				5.2	5.1	4.9	4.85	3.38	5.4	2.95	3.89	4.05
27 -----				5.2	4.75	4.8	5.3	3.22	5.7	3.22	3.78	3.89
28 -----				5.0	5.0	4.9	6.3	3.20	6.0	3.08	3.69	3.72
29 -----				5.4	-----	5.0	7.8	4.7	5.9	2.94	3.54	3.64
30 -----				5.4	-----	5.2	7.6	4.4	5.7	2.82	3.48	3.40
31 -----				5.4	-----	5.2	-----	4.05	-----	-----	3.34	-----

NOTE:—Discharge relation affected by ice about Jan. 2, to Apr. 17.

FLAMBEAU RIVER AT LADYSMITH, WIS.

**Location.**—Three quarters of a mile south of the Minneapolis, St. Paul & Sault Ste Marie Railroad station at Ladysmith, and half a mile below the dam of the Menasha Pulp Co.

**Records available.**—February 15, 1903, to December 2, 1906. Published also in Water-Supply Papers 98, 128, 171, and 207. Published in Water-Supply Papers as Flambeau River near Ladysmith.

**Drainage area.**—2,120 square miles.

**Gage.**—Chain gage fastened to upstream side of highway bridge.

**Discharge measurements.**—Made from through span highway bridge.

**Winter flow.**—Discharge relation affected by ice.

Daily discharge, in second-feet of Flambeau River at Ladysmith, Wis., for the years ending Sept. 30, 1903-1906.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1903												
1							2,960	5,820	9,120	960		2,960
2							2,580	6,040	8,790	1,540		2,400
3							2,760	6,480	7,250	3,510		2,580
4							2,760	7,470	6,480	5,380		1,760
5							3,070	7,580	5,380	7,140		2,580
6							1,920	7,580	4,170	7,470		2,760
7							2,760	7,580	4,170	7,800		2,760
8							3,950	6,920	3,620	7,030		3,620
9							3,730	6,700	2,860	6,700		5,600
10							3,510	5,050	2,240	6,480	5,600	5,600
11							3,510	5,710	2,490	6,810	5,160	5,160
12							3,620	6,920	2,580	6,370	4,940	6,040
13							3,510	8,570	1,760	5,820	4,720	7,360
14							4,060	9,120	1,540	4,830	4,500	9,120
15							3,840	8,790	1,840	4,500	4,060	10,400
16							3,400	8,570	2,080	4,390	3,620	10,700
17							2,860	8,240	1,400	4,280	3,620	10,700
18							2,960	8,350	1,400	3,730	3,400	10,200
19						5,710	2,760	7,470	1,160	3,730	2,960	9,560
20						10,300	2,660	7,800	1,110	3,400	2,960	8,900
21						8,020	2,760	7,910	1,160	3,290	3,180	8,020
22						6,260	2,320	7,030	1,280	2,400	2,760	7,140
23						6,150	2,320	7,690	960	2,400	2,400	6,260
24						3,620	3,620	7,140	1,220	2,400	2,580	5,600
25						4,280	3,620	7,360	915	2,580	3,180	5,160
26						3,510	3,510	8,570	1,160	(a)	2,580	4,500
27						2,960	3,290	10,900	915		2,960	4,830
28						3,180	3,400	12,800	1,010		2,760	4,060
29						2,960	3,840	12,800	1,280		2,580	3,620
30						2,490	6,150	12,200	1,110		2,400	3,400
31						2,240		12,800			2,580	

(a) Chain gage stolen.



*Daily discharge, in second-feet of Flambeau River at Ladysmith, Wis.,  
for the years ending Sept. 30, 1903-1906.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1903-4</b>												
1	3,400	1,340					2,700	5,910	3,630	3,760	615	1,760
2	3,620	1,680					3,140	5,600	3,460	4,090	755	1,830
3	4,280	1,160					2,550	5,700	3,490	3,970	a810	1,940
4	8,790	1,160					2,700	5,190	3,510	8,430	a865	4,110
5	8,900	1,160					2,620	5,390	4,510	6,160	921	3,880
6	8,130	1,160					2,550	5,700	4,550	6,290	1,040	3,140
7	7,910	1,220					2,990	5,700	4,990	6,020	607	3,270
8	7,910	960					3,220	6,220	5,030	6,020	755	3,300
9	8,020	1,010					2,920	6,960	4,330	4,600	1,080	2,880
10	8,130	1,160					2,840	6,850	3,170	4,420	1,290	1,400
11	7,250	1,340					2,990	6,330	2,990	3,970	1,200	1,970
12	6,590	1,160					2,990	6,120	3,220	3,220	1,400	1,860
13	6,150	1,160					3,070	5,190	3,070	1,970	1,260	2,050
14	5,710	1,110					2,920	4,800	3,020	1,830	1,260	1,830
15	4,940	1,110					3,220	4,530	2,260	1,570	1,200	1,610
16	4,830	1,060					3,140	4,420	2,190	1,610	1,430	1,470
17	4,720	1,110					2,990	4,530	1,900	1,440	1,260	1,470
18	4,060	530					2,920	4,530	1,760	1,400	1,200	1,580
19	3,730	825					2,840	4,570	1,860	921	1,330	1,610
20	3,510	825					2,620	2,920	1,330	1,140	1,080	1,400
21	3,510	785					2,620	2,880	1,230	1,330	1,400	1,400
22	3,290	630					2,330	2,860	1,610	1,200	1,690	1,260
23	3,070	745					3,140	2,900	1,330	1,140	1,900	1,330
24	2,960	960					3,140	2,930	1,900	1,020	2,050	1,330
25	2,580	785					4,510	5,290	2,190	1,200	2,330	1,970
26	2,960	870					5,290	6,540	2,410	1,610	2,050	1,970
27	2,580	1,160					5,390	7,380	2,770	2,490	2,050	1,970
28	2,160	1,110					5,500	7,170	2,920	2,480	1,690	2,050
29	2,320	1,110					5,500	6,120	2,920	1,020	1,540	1,970
30	1,400	1,160					6,330	5,290	3,140	662	1,790	2,050
31	1,610							4,140		875	1,610	
<b>1904-5</b>												
1	a1,950	3,220	970				6,400	2,530	3,510	4,090	1,280	2,680
2	a1,840	3,300	580				5,560	2,530	1,800	3,890	1,390	2,240
3	a1,740	3,140	1,330				6,820	2,530	1,980	3,700	1,280	2,680
4	a1,640	2,700	390				7,240	2,840	2,530	3,890	1,180	2,840
5	1,470	2,410	615				6,610	3,330	4,300	5,980	1,240	2,840
6	1,470	2,550	690				5,560	3,890	6,190	6,820	868	2,680
7	1,540	1,830	500				5,560	3,890	8,120	7,240	868	2,240
8	1,540	1,690	1,110				5,140	3,510	7,460	6,400	825	2,380
9	2,920	1,640	893				4,930	3,000	6,610	5,770	1,000	2,110
10	5,910	1,610	875				4,300	3,510	6,190	5,140	825	1,980
11	5,810	1,470	662				3,510	3,700	5,980	3,510	910	1,740
12	5,700	875	1,100				3,160	4,300	5,980	2,840	1,040	1,740
13	5,500	921	875				3,160	4,300	3,890	2,840	910	1,800
14	5,350	792	690				5,140	4,720	3,700	2,840	842	1,800
15	5,090	1,160	721				4,930	5,350	3,890	2,380	955	2,040
16	4,240	679	792				3,890	5,140	4,090	2,240	1,090	2,530
17	3,140	875	721				3,160	5,560	4,720	1,920	1,040	3,000
18	2,770	1,040	690				2,320	5,980	8,340	1,920	1,390	2,920
19	3,070	1,020	832				2,180	5,980	8,120	1,980	2,530	4,090
20	3,220	921	893				2,040	5,560	7,680	1,680	2,680	4,300
21	3,800	792	1,020				2,180	4,720	7,030	1,620	3,000	5,140
22	4,140	1,160	1,040				2,840	4,720	6,610	1,740	2,680	5,560
23	4,060	673	1,000				1,860	3,510	5,980	1,390	2,240	4,300
24	4,060	875	921			2,530	1,920	4,720	5,560	1,000	2,040	3,990
25	4,240	1,040	970			2,040	1,680	3,890	4,720	1,390	2,530	3,330
26	4,060	1,020	1,020			1,920	1,560	3,510	4,720	1,240	1,920	3,160
27	3,880	875	1,540			1,800	3,510	3,160	4,720	1,280	1,800	2,530
28	3,710	755	1,080			3,000	3,510	4,720	4,090	1,280	2,530	2,530
29	3,880	555	1,140			4,510	2,840	4,300	4,090	1,240	2,840	2,380
30	3,970	875	1,830			5,140	2,530	3,890	4,090	1,180	3,160	1,740
31	3,170		1,970			5,980		3,510		1,040	2,840	

(a) Interpolated.



Daily discharge, in second-feet of Flambeau River at Ladysmith, Wis.,  
for the years ending Sept. 30, 1903-1906.—(Concluded).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1905-6												
1.....	2,180	1,980	1,680	-----	-----	-----	-----	4,340	3,420	2,530	745	1,680
2.....	2,180	1,800	1,390	-----	-----	-----	-----	4,820	3,330	2,710	1,240	1,800
3.....	1,920	1,680	1,340	-----	-----	-----	-----	3,990	3,080	3,000	1,740	1,640
4.....	1,800	1,560	1,740	-----	-----	-----	-----	5,350	2,680	2,530	785	1,620
5.....	1,740	1,740	1,440	-----	-----	-----	5,030	5,980	2,560	2,560	1,180	1,560
6.....	1,680	1,680	1,620	-----	-----	-----	5,140	5,870	3,080	1,740	3,080	1,620
7.....	1,280	1,740	2,040	-----	-----	-----	4,820	5,140	4,260	1,920	3,330	1,920
8.....	1,440	1,680	1,680	-----	-----	-----	3,600	4,260	5,240	1,620	2,760	1,000
9.....	1,280	1,560	1,800	-----	-----	-----	5,030	3,740	4,510	1,920	1,860	1,040
10.....	1,440	1,440	1,800	-----	-----	-----	5,520	3,510	5,140	1,920	1,740	1,180
11.....	1,040	1,560	1,390	-----	-----	-----	5,350	3,130	4,130	1,990	1,920	1,090
12.....	1,740	1,860	1,280	-----	-----	-----	6,930	3,000	3,600	2,140	1,740	1,140
13.....	1,680	1,860	1,390	-----	-----	-----	8,280	3,000	3,510	2,240	1,680	2,320
14.....	1,620	1,740	1,180	-----	-----	-----	10,300	2,870	2,600	1,920	1,500	3,030
15.....	1,980	1,620	1,180	-----	-----	-----	10,800	3,240	2,530	1,740	1,500	3,080
16.....	2,460	1,800	1,740	-----	-----	-----	10,600	2,840	2,320	1,980	1,280	2,960
17.....	2,380	1,560	1,980	-----	-----	-----	10,200	3,700	2,180	1,860	1,390	3,000
18.....	2,840	1,390	1,180	-----	-----	-----	9,910	2,360	1,860	1,740	1,180	3,030
19.....	3,990	1,390	1,440	-----	-----	-----	10,000	2,360	1,620	1,620	867	3,000
20.....	3,160	1,340	955	-----	-----	-----	10,000	2,600	1,620	1,440	1,090	2,500
21.....	3,990	1,390	1,140	-----	-----	-----	10,000	2,320	1,880	2,240	2,040	1,830
22.....	3,420	1,180	1,140	-----	-----	-----	9,320	2,680	2,240	1,370	2,460	2,870
23.....	3,600	1,240	1,090	-----	-----	-----	8,510	2,760	2,110	1,240	2,530	2,960
24.....	3,330	1,090	1,180	-----	-----	-----	7,820	3,370	2,460	1,170	2,840	1,680
25.....	3,000	1,500	1,240	-----	-----	-----	6,820	3,370	2,220	1,500	2,320	2,320
26.....	2,760	2,240	1,620	-----	-----	-----	6,190	3,700	2,240	1,040	2,920	2,220
27.....	2,600	1,620	1,090	-----	-----	-----	5,660	4,300	2,270	1,180	2,180	1,800
28.....	2,530	2,240	1,500	-----	-----	-----	4,820	4,090	2,110	1,140	2,040	1,980
29.....	2,380	1,680	1,390	-----	-----	-----	4,820	3,470	2,560	1,240	1,920	1,740
30.....	2,180	1,390	1,680	-----	-----	-----	4,510	4,300	3,510	1,040	1,740	2,180
31.....	1,860	-----	1,620	-----	-----	-----	-----	3,700	-----	600	2,110	-----
1906												
1.....	1,680	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2.....	1,180	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3.....	1,280	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4.....	910	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5.....	1,500	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6.....	745	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7.....	1,280	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8.....	535	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
9.....	1,240	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10.....	1,340	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
11.....	1,200	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12.....	1,180	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
13.....	1,180	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
14.....	1,140	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
15.....	1,090	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
16.....	1,240	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
17.....	1,140	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

(a) Interpolated.

NOTE.—Mean discharge estimated, on account of ice as follows: Feb. 15-28, 1903, 860 second-feet, varying from 650 to 1,360 second-feet; Mar. 1-18, 1,280 second-feet, varying from 830 to 1,680 second-feet. Daily discharge table from Mar. 19, 1903, to Dec. 31, 1905, differs from that published in U. S. Geol. Survey Water-Supply Papers 98, 128, and 171, in use of three significant figures.

*Monthly discharge of Flambeau River at Ladysmith, Wis.,  
for the years ending Sept. 30, 1903-1907.*

[Drainage area, 2,120 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1903						
February (15-28)			860	0.406	0.21	
March			2,740	1.29	1.49	
April	6,150	1,920	3,270	1.54	1.72	
May	12,800	5,050	8,190	3.86	4.45	
June	9,120	915	2,750	1.30	1.45	
July (1-25)	7,800	960	4,600	2.17	2.01	
August (10-31)	5,600	2,400	3,430	1.62	1.33	
September	10,700	1,760	5,780	2.73	3.05	
1903-4						
October	8,900	1,400	4,810	2.27	2.62	
November	1,680	530	1,050	.495	.55	
December						
January						
February						
March						
April	6,330	2,330	3,390	1.60	1.78	
May	7,380	2,860	5,180	2.44	2.81	
June	5,030	1,230	2,890	1.36	1.52	
July	8,430	662	2,830	1.33	1.53	
August	2,330	607	1,340	.632	.73	
September	4,110	1,260	2,060	.972	1.08	
1904-5						
October	5,910	1,470	3,510	1.66	1.91	
November	3,300	555	1,420	.670	.75	
December	1,970	390	950	.448	.52	
January						
February						
March (24-31)	5,980	1,800	3,360	1.58	.47	
April	7,240	1,560	3,870	1.83	2.04	
May	5,980	2,530	4,090	1.93	2.22	
June	8,340	1,800	5,220	2.46	2.74	
July	7,240	1,000	2,950	1.39	1.60	
August	3,160	825	1,670	.788	.91	
September	5,560	1,740	2,840	1.34	1.50	
1905-6						
October	3,990	1,040	2,310	1.09	1.26	
November	2,240	1,090	1,620	.764	.85	
December	2,040	955	1,450	.684	.79	
January						
February						
March						
April (5-30)	10,800	3,600	7,310	3.45	3.34	
May	5,980	2,320	3,680	1.74	2.01	
June	5,240	1,620	2,900	1.37	1.53	
July	3,000	600	1,770	.835	.96	
August	3,330	745	1,860	.877	1.01	
September	3,080	1,000	2,730	1.29	1.44	
1906						
October (1-17)	1,680	535	1,170	.552	.35	

NOTE.—Mean monthly discharge from Feb. 1903, to Dec. 1905, differs from that published in the U. S. Geol. Survey Water-Supply Papers 98, 128, and 171, in use of three significant figures.

EAU CLAIRE RIVER NEAR AUGUSTA, WIS.

**Location.**—At Trouble Water bridge, about 7 miles northeast of Augusta.  
South Fork of Eau Claire River enters from the left about 4 miles above the station.

**Records available.**—July 16 to September 30, 1914.

**Drainage area.**—500 square miles.

**Gage.**—Chain gage on downstream side of Trouble Water bridge, read once daily in the morning to quarter tenths; limits of use: hundredths below 2.0 feet, half tenths between 2.0 and 3.0 feet, and tenths above 3.0 feet.

**Control.**—Solid rock and hard gravel; probably permanent.

**Discharge measurements.**—Made from downstream side of bridge.  
Data insufficient for estimates of discharge.

Discharge measurements of Eau Claire River near Augusta, Wis., during the year ending Sept. 30, 1914.

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
July 16.....	H. C. Beckman.....	1.75	451
September 19.....	M. F. Rather.....	3.20	1,000

Daily gage height, in feet, of Eau Claire River near Augusta, Wis., for the year ending Sept. 30, 1914.

[Albert Wagner, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1.....											0.60	0.68
2.....											.60	.85
3.....											.60	.85
4.....											.58	.75
5.....											.55	.78
6.....											.50	3.3
7.....											.50	3.1
8.....											.50	2.0
9.....											.50	1.50
10.....											.50	1.30
11.....											.50	1.65
12.....											.48	1.98
13.....											.45	1.80
14.....											.45	2.3
15.....											.40	4.8
16.....										1.75	.45	6.1
17.....										1.50	.85	4.5
18.....										1.22	.90	4.2
19.....										1.08	1.10	3.2
20.....										.85	1.05	2.5
21.....										.85	.90	1.90
22.....										.80	.90	2.0
23.....										.85	1.10	2.9
24.....										.90	1.20	2.5
25.....										.82	1.10	2.3
26.....										.75	.90	1.95
27.....										.70	.80	1.60
28.....										.70	.75	1.40
29.....										.65	.68	1.28
30.....										.65	.60	1.15
31.....										.65	.55	-----

## EAU CLAIRE RIVER AT EAU CLAIRE, WIS.

**Location.**—Footbridge at old dam located about 1 mile above the mouth of the river near the McDonough Mfg. Co., Eau Claire, Wis.

**Records available.**—December 27, 1913, to July 17, 1914. (See Eau Claire River near Augusta.)

**Drainage area.**—873 square miles.

**Gage.**—Chain gage, attached to downstream railing of foot bridge, read twice daily, morning and evening, to half tenths; limits of use: hundredths below 1.5 feet, half tenths between 1.5 and 2.5 feet, and tenths above 2.5 feet.

**Control.**—Heavy gravel and sand.

**Discharge measurements.**—During low stages, made from footbridge to which gage is attached; during medium and high stages from the Madison Street bridge, one-half mile below gage.

**Winter flow.**—Discharge relation affected by ice; flow determined from discharge measurements made through the ice.

**Regulation.**—None.

**Accuracy.**—Below the gage is a rock outcrop at which there is at all times a decided riffle; but during high water in Chippewa River there was apparently backwater at the gage; records for such periods only approximate.

*Discharge measurements of Eau Claire River at Eau Claire, Wis., during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
1913		Feet	Sec.-feet
December 27 (a) .....	G. H. Canfield.....	1.27	198
1914			
January 26 (a).....	O. A. Steller.....	1.71	192
March 3 (b).....	O. A. Steller.....	1.25	146
March 10 (b).....	G. H. Canfield.....	1.40	174
March 17 (c).....	G. H. Canfield.....	1.89	985
April 4.....	G. H. Canfield.....	1.75	1,260
April 4.....	G. H. Canfield.....	1.72	1,300
April 21.....	W. G. Hoyt.....	2.16	1,360
June 8.....	G. H. Canfield.....	4.52	5,880
July 16.....	H. C. Beckman.....	1.48	1,030

(a) Control partly frozen over.

(b) Complete ice cover.

(c) Ice nearly out.

Daily gage height, in feet, of Eau Claire River at Eau Claire, Wis.,  
for the year ending Sept. 30, 1914.  
[John McDonough, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1					1.7	1.20	2.9	4.6	1.7	2.8		
2					1.65	1.21	2.1	3.2	1.30	2.45		
3					1.7	1.26	2.0	2.3	1.28	2.1		
4					1.55	1.25	1.8	2.0	1.7	1.8		
5					1.48	1.35	1.7	1.6	3.4	1.40		
6					1.36	1.46	1.42	1.48	4.4	1.18		
7						1.49	1.32	1.35	4.6	.98		
8						1.45	1.20	1.22		.88		
9						1.39	1.12	1.18	4.6	.88		
10						1.40	1.12	1.05		.72		
11						1.32	1.02	1.02		.68		
12						1.45	1.10	1.12	1.5	.75		
13						1.52	1.12	1.40	1.32	.98		
14						2.5	1.20	1.40	1.05	1.8		
15						3.4	1.28	1.18	1.02	1.9		
16						2.2	1.30	1.00	1.02	1.48		
17						1.95	1.38	.88	.92			
18						1.8	1.45	.78	.78			
19						2.3	1.5	.72	.75			
20						1.45	1.9	.50	.68			
21						1.30	2.2	.65	.82			
22						1.05	2.0	.80	1.08			
23						.85	1.85	2.3	1.5			
24						.75	1.7	2.6	1.42			
25						.82	2.0	2.0	1.65			
26				1.75		.72	3.6	1.65	1.9			
27				1.7		.68	3.0	3.2	2.6			
28						.88	3.5	3.4	4.4			
29						1.6	3.4	3.0	5.0			
30				2.0		2.9	4.8	2.7	3.8			
31				1.85		3.3		2.25				

NOTE.—Discharge relation affected by ice about Jan. 1 to Mar. 25, and by backwater about Apr. 20 to May 5, and June 27 to July 2. See "Accuracy" in station description.

Daily discharge, in second-feet, of Eau Claire River at Eau Claire, Wis.,  
for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1							2,990		1,250			
2							1,770		890			
3							1,630		878	1,770		
4							1,370		1,250	1,370		
5							1,250		3,830	955		
6							972	1,020	5,660	820		
7							903	922	6,040	734		
8							830	842	6,040	704		
9							790	820	6,040	704		
10							790	760	4,370	656		
11							748	748	2,710	646		
12							780	790	1,040	665		
13							790	955	903	734		
14							830	955	760	1,370		
15							878	820	748	1,500		
16							890	740	748	1,020		
17							942	704	716			
18							998	674	674			
19							1,040	656	665			
20								610	646			
21								640	686			
22								680	772			
23								2,050	1,040			
24								2,510	972			
25								1,630	1,200			
26						656		1,200	1,500			
27						646		3,490				
28						704		3,830				
29						1,140		3,150				
30						2,990		2,670				
31						3,660		1,980				

NOTE.—Daily discharge computed from a rating curve fairly well defined between 955 and 6,040 second-feet (gage heights, 1.4 and 4.6 feet). Mean discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements, and climatologic records, as follows: Jan. 1–15, 210 second-feet; Jan. 16–31, 190 second-feet; Feb. 1–28, 175 second-feet; Mar. 1–15, 320 second-feet; and Mar. 16–25, 850 second-feet. Discharge April 20 to May 5 and June 27 to July 2, estimated because of backwater, as follows: Apr. 20–30, 2,100 second-feet; May 1–5, 2,100 second-feet; June 27–30, 3,900 second-feet; and July 1–2, 2,280 second-feet.

Monthly discharge of Eau Claire River at Eau Claire, Wis.,  
for the year ending Sept. 30, 1914.  
[Drainage area, 873 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1914						
January			200	0.229	0.26	CCCCC
February			175	.200	.21	
March			745	.853	.98	
April		748	1,480	1.70	1.90	
May		610	1,500	1.72	1.98	
June		646	2,250	2.58	2.88	
July (1–16)	2,280	646	1,140	1.31	.78	

NOTE.—See footnote to table of daily discharge.

RED CEDAR RIVER NEAR COLFAX, WIS.

**Location.**—At a highway bridge about 5 miles north of Colfax, Wis. Hay River enters from the right about 11 miles below and Trout Creek, also from the right,  $3\frac{1}{2}$  miles above the station.

**Records available.**—March 10 to September 30, 1914.

**Drainage area.**—1,100 square miles.

**Gage.**—Chain gage attached to the downstream side of bridge; read twice daily, morning and evening, to quarter tenths; limits of use: half tenths below 1.0 foot, and tenths above 1.0 foot.

**Control.**—Rock ledge; permanent; during summer months, discharge relation is affected by growth of grass.

**Discharge measurements.**—Made from downstream side of bridge to which gage is attached.

**Winter flow.**—Discharge relation affected by ice; flow determined from measurements made through the ice.

**Regulation.**—None.

**Accuracy.**—Rating curve well defined; records probably excellent except for period from July 26 to September 30 when discharge relation is believed to have been affected by backwater due to grass in channel; discharge for this period determined by applying corrections to the open-water rating curve.

**Cooperation.**—Gage reader at this station paid by the Wisconsin & Minnesota Light & Power Co.

Discharge measurements of Red Cedar River near Colfax, Wis., during the year ending Sept. 30, 1914.

Date	Made by	Gage height	Discharge
1914		Feet	Sec-feet
March 19 (a)	G. H. Canfield	2.45	1,080
April 6 (b)	G. H. Canfield	1.70	816
April 21	W. G. Hoyt	2.60	1,576
May 6	M. F. Rather	1.99	986
June 5	M. F. Rather	4.90	4,300
August 14 (c)	S. B. Soulé	1.41	597

(a) Very little ice in river.  
(b) Control clear of ice.  
(c) Grass growing in stream about 20 feet from each bank.

Daily gage height, in feet, of Red Cedar River near Colfax, Wis.,  
for the year ending Sept. 30, 1914.

[Andrew Loudeguam, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1							2.8	2.4	2.0	3.8	1.7	1.6
2							2.2	2.0	1.8	3.0	1.6	1.7
3							2.1	1.8	1.7	2.8	1.4	1.6
4							2.2	2.1	4.0	2.7	1.5	1.4
5							2.0	2.0	4.7	2.7	1.5	1.4
6							1.8	1.9	4.1	2.2	1.5	1.4
7							1.8	1.9	3.6	2.0	1.5	1.4
8							1.7	1.9	3.1	2.1	1.4	1.5
9							1.6	1.9	2.7	2.0	1.4	1.7
10							1.6	1.8	3.0	1.6	1.4	1.8
11							1.7	1.6	2.2	1.6	1.4	1.8
12							1.6	1.5	2.0	1.8	1.4	1.6
13							1.4	1.4	1.8	2.3	1.4	1.6
14							1.6	1.4	1.8	2.6	1.4	1.9
15							1.6	1.3	1.8	2.3	1.4	2.3
16							1.6	1.3	1.8	2.6	1.4	1.4
17							1.5	1.4	1.7	2.6	1.4	2.8
18							1.5	1.2	1.6	2.3	1.5	2.5
19						2.4	2.1	1.3	1.6	2.3	1.5	2.1
20						2.0	2.6	1.2	1.6	1.8	1.4	2.2
21						2.0	2.5	1.4	1.6	1.6	1.4	2.1
22						1.8	2.3	1.4	1.6	1.6	1.4	2.6
23						1.6	2.2	1.4	2.0	1.6	1.9	2.8
24						1.8	2.0	1.4	2.6	1.8	1.8	2.7
25						1.8	2.2	1.3	2.7	1.8	1.7	1.9
26						1.9	1.5a	1.4	3.0	1.6	1.6	1.8
27						1.9	2.2	1.5	4.4	1.5	1.5	1.7
28						1.9	2.4	1.6	4.8	1.5	1.4	1.8
29						2.4	2.8	2.4	4.7	1.6	1.4	1.6
30						2.9	2.8	1.8	3.8	1.6	1.4	1.8
31						3.3		1.7		1.8	1.4	

(a) Gage height evidently 1.0 foot too low.

NOTE.—Discharge relation affected by ice about Mar. 19–31, and by backwater caused by grass in channel about July 26 to Sept. 30.



*Daily discharge, in second-feet, of Red Cedar River near Colfax, Wis.,  
for the year ending Sept. 30, 1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1							1,760	1,370	1,010	2,880	760	670
2							1,190	1,010	870	1,980	710	710
3							1,100	870	810	1,760	630	670
4							1,190	1,100	3,120	1,660	670	600
5							1,010	1,010	4,030	1,660	670	600
6							870	930	3,250	1,190	630	600
7							870	930	2,640	1,010	630	600
8							810	930	2,090	1,100	600	630
9							760	930	1,660	1,010	600	710
10							760	870	1,980	760	600	760
11							810	760	1,190	760	600	760
12							760	710	1,010	870	600	670
13							670	670	870	1,280	600	670
14							760	670	870	1,560	600	810
15							760	630	870	1,280	600	1,100
16							760	630	870	1,560	600	600
17							710	670	810	1,560	600	1,560
18							710	600	760	1,280	630	1,280
19							1,100	630	760	1,280	630	930
20							1,560	600	760	870	600	1,010
21							1,460	670	760	760	600	930
22							1,280	670	760	760	600	1,370
23							1,190	670	1,010	760	810	1,560
24							1,010	670	1,560	870	760	1,460
25							1,190	630	1,660	870	710	810
26							1,460	670	1,980	710	670	760
27							1,190	710	3,640	670	630	710
28							1,370	760	4,170	670	600	760
29							1,760	1,370	4,030	710	600	670
30							1,760	870	2,880	710	600	760
31								810		810	600	

NOTE:—Daily discharge computed from a rating curve well defined between 760 and 4,450 second-feet (gage heights, 1.6 and 5.0 feet).

Mean discharge Mar. 19 to 31 estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, at 968 second-feet.

See "Accuracy" in station description.

*Monthly discharge of Red Cedar River near Colfax, Wis.,  
for the year ending Sept. 30, 1914.*

[Drainage area, 1,100 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
March (19—31)			968	0.880	0.43	D
April	1,760	670	1,090	.991	1.11	A
May	1,370	600	807	.734	.85	B
June	4,170	760	1,760	1.60	1.78	A
July	2,880	670	1,150	1.05	1.21	B
August	810	600	637	.579	.67	B
September	1,560	600	858	.780	.87	B

NOTE:—See footnotes to tables of daily gage height and daily discharge.

## RED CEDAR RIVER AT CEDAR FALLS, WIS.

**Location.**—At the highway bridge in the vicinity of Cedar Falls, Wis.  $4\frac{1}{2}$  miles above the crossing of the Chicago, St. Paul, Minneapolis, & Omaha Railway.

**Records available.**—April 1, 1909, to September 30, 1914. Data published also in U. S. Geol. Survey Water-Supply Papers 265, 285, 305, and 325.

**Drainage area.**—Not measured.

**Gage.**—Staff gage fastened to bridge pier; read twice daily, morning and evening, to tenths.

**Control.**—Probably permanent.

**Discharge measurements.**—No discharge measurements have been made at this station. The station is maintained for the purpose of determining the fluctuation in stage.

**Winter flow.**—Winters are severe in this locality, but the discharge relation is apparently not greatly affected by ice, probably because of the rapids a short distance below the station which ordinarily do not entirely freeze over.

**Regulation.**—The operation of small storage reservoirs at the headwaters of the river, together with storage at the power plants above the gaging station, modifies the flow to such an extent that it can not be considered natural.

**Cooperation.**—Gage heights furnished by the Wisconsin & Minnesota Light & Power Co.

*Daily gage height, in feet, of Red Cedar River at Cedar Falls, Wis., for the years ending Sept. 30, 1909–1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1808—9												
1							3.45	3.35	2.9	2.5	2.3	2.3
2							3.85	3.3	3.45	2.5	2.2	2.3
3							3.9	3.25	3.55	2.5	2.25	2.3
4							3.75	3.2	3.6	2.5	2.2	2.3
5							3.55	3.35	3.25	2.5	2.2	2.3
6							3.5	3.8	3.35	2.45	2.2	2.3
7							3.4	4.5	3.9	2.4	2.2	2.3
8							3.35	4.4	4.0	2.3	2.2	2.3
9							3.4	3.65	3.8	2.3	2.2	2.45
10							3.45	3.35	3.15	2.3	2.2	2.5
11							3.3	3.15	3.0	2.3	2.25	2.5
12							3.25	3.1	2.8	2.6	2.6	2.5
13							3.4	2.8	2.8	2.7	2.65	2.6
14							3.35	2.85	2.85	2.55	2.5	2.55
15							3.1	2.95	2.9	2.45	2.35	2.5
16							3.0	3.5	2.7	2.35	2.3	2.5
17							3.0	3.9	2.7	2.3	2.3	2.5
18							3.0	3.9	2.7	2.3	2.3	2.5
19							3.05	3.75	2.65	2.3	2.3	2.5
20							3.05	3.5	2.6	2.3	2.3	2.5
21							3.05	3.45	2.55	2.3	2.3	2.5
22							3.05	3.3	2.5	2.3	2.3	2.5
23							3.05	3.0	2.6	2.3	2.3	2.5
24							3.05	2.85	2.7	2.3	2.3	2.5
25							3.0	2.9	2.55	2.3	2.3	2.5
26							3.45	2.8	2.5	2.3	2.3	2.5
27							3.35	2.8	2.5	2.3	2.3	2.4
28							3.2	2.8	2.5	2.3	2.4	2.4
29							3.15	2.8	2.5	2.3	2.3	2.3
30							3.3	2.7	2.5	2.3	2.3	2.3
31								2.7		2.3	2.3	

NOTE:—Discharge relation affected by ice about Dec. 5, 1909, to Mar. 13, 1910.

*Daily gage height, in feet, of Red Cedar River at Cedar Falls, Wis.,  
for the years ending Sept. 30, 1909-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1909-10</b>												
1	2.3	2.65	3.25				2.7	2.2	2.4	2.0	2.0	2.0
2	2.3	2.75	3.05				2.6	2.2	2.4	2.0	2.0	2.0
3	2.3	2.95	3.2		3.7	4.9	2.6	2.2	2.4	2.0	2.0	2.0
4	2.3	3.3	3.25				2.5	2.2	2.4	2.0	2.0	2.0
5	2.3	2.85	3.15				2.5	2.2	2.4	2.0	2.0	2.0
6	2.3	2.75	3.05	3.8			2.5	2.3	2.4	2.0	2.0	2.0
7	2.3	2.65	3.0				2.4	2.3	2.3	2.0	2.0	2.1
8	2.3	2.6	3.0				2.4	2.3	2.3	2.0	2.0	2.1
9	2.3	2.8	3.0				2.4	2.3	2.3	2.0	2.0	2.1
10	2.45	2.6	3.0		3.8	5.0	2.4	2.3	2.3	2.0	2.0	2.1
11	2.55	2.7	3.0				2.4	2.3	2.2	2.0	2.0	2.1
12	2.7	2.7	3.0				2.4	2.2	2.2	2.0	2.0	2.1
13	2.65	2.7	3.1	3.7		4.55	2.4	2.2	2.2	2.0	2.0	2.1
14	2.55	2.9	3.15			4.15	2.4	2.2	2.2	2.0	2.0	2.1
15	2.5	3.6	3.25			3.8	2.4	2.2	2.2	2.0	2.0	2.1
16	2.4	2.45	3.3			3.6	2.4	2.25	2.2	2.0	2.0	2.1
17	2.4	3.3	3.4		3.9	3.55	2.4	2.4	2.2	2.0	2.0	2.0
18	2.4	3.2	3.5			3.4	2.4	2.55	2.2	2.0	2.0	2.0
19	2.4	3.1	3.55			3.4	2.4	3.75	2.2	2.0	2.0	2.0
20	2.4	3.05	3.6	3.6		3.4	2.35	2.8	2.2	2.0	2.0	2.0
21	2.4	3.0	3.6			3.35	2.3	2.8	2.2	2.0	2.0	2.0
22	2.5	3.15	3.7			3.3	2.3	2.7	2.2	2.0	2.0	2.0
23	2.5	3.0	3.7			3.3	2.3	2.7	2.2	2.0	2.0	2.0
24	2.5	3.0	3.7		4.0	3.2	2.3	2.65	2.2	2.0	2.0	2.0
25	2.5	2.9	3.7			3.2	2.3	2.6	2.1	2.0	2.0	2.05
26	2.5	2.9				3.05	2.3	2.55	2.1	2.0	2.0	2.4
27	2.4	3.0		3.7		3.0	2.3	2.5	2.1	2.0	2.0	2.6
28	2.4	3.05				2.9	2.3	2.45	2.1	2.0	2.0	2.6
29	2.4	3.25				2.8	2.3	2.4	2.1	2.0	2.0	2.6
30	2.4	3.4	4.0			2.75	2.2	2.4	2.0	2.0	2.0	2.6
31	2.45					2.7		2.4		2.0	2.0	
<b>1910-11</b>												
1	2.6	1.6	1.9	2.0	2.0	2.2	2.5	2.4	2.4	2.3	2.2	1.9
2	2.65	2.0	1.6	2.0	2.0	2.3	2.5	2.4	2.5	2.0	2.2	1.9
3	2.8	2.0	1.7	2.0	2.0	2.3	2.5	2.4	2.6	2.3	2.2	1.7
4	2.8	2.1	2.1	2.0	2.0	2.4	2.4	2.3	2.5	2.4	2.3	2.1
5	2.8	2.2	2.3	2.0	2.0	2.5	2.4	2.3	2.7	2.35	2.3	2.1
6	2.8	2.2	2.2	2.0	2.0	2.4	2.3	2.2	2.7	2.3	2.0	2.0
7	2.8	2.2	2.25	2.0	2.0	2.4	2.3	1.9	2.7	2.2	2.2	2.0
8	2.8	2.2	2.2	2.0	2.0	2.4	2.3	2.2	2.6	2.1	2.2	2.1
9	2.3	2.2	2.2	2.0	2.0	2.4	2.2	2.1	2.6	2.0	2.1	2.2
10	2.9	2.2	2.2	2.0	2.0	2.1	2.2	2.2	2.5	2.3	2.1	2.2
11	2.8	2.2	2.2	2.0	2.0	1.8	2.2	2.1	2.3	2.2	2.1	2.2
12	2.7	1.7	2.15	2.0	2.05	2.4	2.2	2.1	2.6	2.1	2.1	2.2
13	2.7	1.6	2.35	2.0	2.25	2.8	2.2	2.1	2.55	2.1	1.9	2.2
14	2.6	1.7	2.6	2.0	2.55	2.85	2.3	1.9	2.5	2.0	2.1	2.2
15	2.55	1.8	2.35	2.0	2.45	2.75	2.3	2.25	2.4	2.0	2.1	2.1
16	2.5	2.0	2.2	2.0	2.3	2.6	2.0	2.4	2.25	1.8	2.0	2.1
17	2.5	2.0	2.1	2.0	2.3	2.65	2.6	2.4	2.0	2.1	2.0	1.9
18	2.3	1.4	2.0	2.0	2.3	2.7	2.5	2.4	1.7	2.0	2.0	2.2
19	2.3	1.8	2.0	2.0	2.2	2.8	2.4	2.4	2.0	2.0	2.0	2.2
20	2.4	1.8	2.0	2.0	2.2	2.75	2.3	2.4	2.0	2.0	1.9	2.15
21	2.5	2.6	2.0	2.0	2.1	2.7	2.3	2.1	2.0	2.0	2.1	2.1
22	2.4	2.6	2.0	1.6	2.1	2.6	2.2	2.45	2.0	2.0	2.0	2.0
23	2.4	2.6	2.0	1.6	2.1	2.5	2.1	2.55	2.1	1.9	2.0	2.0
24	2.4	2.5	2.0	1.75	2.1	2.5	2.4	2.7	2.1	2.1	2.0	2.0
25	2.3	2.45	2.0	1.85	2.1	2.5	2.3	2.55	1.7	2.0	2.0	2.0
26	2.3	2.4	2.0	1.95	2.1	2.5	2.3	2.45	2.0	2.0	2.0	2.0
27	2.2	2.4	1.95	2.0	2.1	2.5	2.3	2.3	2.2	2.0	1.8	2.0
28	2.2	2.3	1.9	2.0	2.1	2.6	2.3	2.0	2.2	2.1	2.1	2.1
29	2.1	2.1	1.9	1.7		2.5	2.3	2.4	2.2	2.05	2.1	2.2
30	2.1	2.0	1.9	1.9		2.5	2.0	2.35	2.3	1.9	2.0	2.3
31	2.1		1.9	1.9		2.5		2.3		2.2	2.0	

*Daily gage height, in feet, of Red Cedar River at Cedar Falls, Wis.,  
for the years ending Sept. 30, 1909-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1911-12</b>												
1	2.2	2.8	2.6	2.5	2.2	2.2	4.2	3.4	3.4	2.1	2.5	3.2
2	2.3	2.8	2.6	2.5	2.2	2.2	4.0	3.4	3.3	2.1	2.4	3.4
3	2.4	2.8	2.6	2.5	2.2	2.2	3.8	3.6	3.3	2.0	2.4	3.65
4	2.55	2.8	2.6	2.5	2.2	2.2	3.8	3.8	3.2	2.0	2.4	3.65
5	2.8	2.8	2.6	2.5	2.2	2.2	3.8	4.0	3.2	2.0	2.5	3.45
6	3.9	2.8	2.6	2.5	2.2	2.2	3.9	4.45	3.1	2.1	2.5	3.25
7	5.35	2.8	2.6	2.5	2.2	2.2	4.0	4.2	3.1	2.25	2.65	3.1
8	5.4	2.7	2.6	2.5	2.1	2.2	4.0	4.05	3.0	2.45	2.8	3.0
9	4.15	2.7	2.6	2.5	2.1	2.2	3.7	4.0	3.0	2.6	2.8	3.0
10	3.7	2.7	2.6	2.5	2.1	2.1	3.55	3.8	2.9	2.5	2.8	3.0
11	3.35	2.6	2.6	2.5	2.0	2.3	3.25	3.8	2.8	2.4	2.8	2.9
12	3.15	2.75	2.65	2.5	2.1	2.3	3.15	3.65	2.6	2.4	2.75	2.9
13	3.0	2.85	2.7	2.5	2.2	2.3	3.0	3.55	2.4	2.4	2.7	2.9
14	3.0	2.8	2.7	2.5	2.2	2.3	2.9	3.5	2.4	2.4	2.6	2.8
15	2.7	2.8	2.7	2.5	2.2	2.3	2.8	3.4	2.4	2.4	2.6	2.8
16	3.5	2.7	2.7	2.5	2.2	2.3	2.8	3.25	2.5	2.55	2.5	2.8
17	3.6	2.7	2.7	2.5	2.2	2.3	2.8	3.1	2.6	2.6	2.5	2.8
18	4.5	2.6	2.7	2.4	2.2	2.4	2.8	3.0	2.7	2.6	2.4	2.8
19	4.75	2.6	2.6	2.4	2.2	2.4	2.8	2.9	2.8	2.45	2.4	2.8
20	4.55	2.6	2.6	2.4	2.2	2.4	2.8	2.8	2.95	2.25	2.5	2.8
21	4.25	2.6	2.6	2.4	2.2	2.5	2.8	2.8	3.2	2.2	2.5	2.8
22	4.0	2.5	2.5	2.3	2.2	2.5	3.1	3.0	3.25	2.2	2.6	2.7
23	3.95	2.5	2.5	2.3	2.2	2.6	3.3	3.8	3.1	2.3	2.6	2.7
24	3.8	2.5	2.5	2.3	2.2	2.6	3.2	4.4	3.0	2.45	2.7	2.7
25	3.8	2.5	2.5	2.3	2.1	2.6	3.2	4.2	3.0	2.9	2.8	2.7
26	3.65	2.5	2.5	2.3	2.3	2.6	3.1	4.0	2.9	2.8	2.8	2.7
27	3.45	2.5	2.5	2.3	2.2	2.6	3.1	3.8	2.8	2.7	2.9	2.7
28	3.25	2.5	2.5	2.3	2.2	2.7	3.2	3.7	2.65	2.65	2.8	2.7
29	3.1	2.5	2.5	2.3	2.2	3.2	3.2	3.6	2.45	2.6	3.0	2.6
30	3.05	2.5	2.5	2.2	-----	4.1	3.2	3.6	2.25	2.6	3.1	2.6
31	3.0	-----	2.5	2.2	-----	4.3	-----	3.5	-----	2.5	3.1	-----
<b>1912-13</b>												
1	2.6	2.3	2.2	2.6	2.6	2.5	5.5	2.9	2.8	2.3	2.55	2.4
2	2.6	2.3	2.2	2.5	2.0	2.0	5.55	2.9	2.9	2.0	2.5	2.4
3	2.6	2.4	2.3	2.5	2.6	2.5	5.6	3.0	2.85	2.0	2.3	2.4
4	2.6	2.4	2.3	2.5	2.6	2.6	5.75	2.5	2.8	1.45	2.4	2.6
5	2.6	2.5	2.4	2.0	2.5	2.5	5.55	2.8	2.8	2.1	2.4	2.6
6	2.5	2.5	2.3	2.4	2.5	2.5	4.8	2.8	2.75	4.1	2.45	2.5
7	2.5	2.5	2.2	2.4	2.4	2.45	4.35	2.8	2.7	4.2	2.4	2.4
8	2.5	2.5	2.2	2.5	2.45	2.5	4.15	2.75	2.65	3.9	2.4	2.4
9	2.5	2.5	2.4	2.5	1.6	2.0	3.85	2.7	2.6	3.55	2.4	2.4
10	2.5	2.5	2.3	2.4	2.5	2.8	3.3	2.7	2.6	3.2	2.3	2.4
11	2.5	2.5	2.35	2.3	2.4	2.55	3.6	2.0	2.5	3.0	2.4	2.4
12	2.7	2.6	2.4	2.1	2.45	3.35	3.7	2.3	2.5	3.2	2.4	2.5
13	2.8	2.4	2.4	2.3	2.45	3.8	3.5	2.4	2.5	2.6	2.3	2.4
14	2.9	2.5	2.4	2.3	2.45	4.4	3.5	2.5	2.5	2.9	2.4	2.1
15	2.8	2.5	a0.6	2.4	2.5	4.4	3.5	2.75	2.6	3.0	2.4	2.4
16	2.8	2.5	2.4	2.4	1.6	3.95	3.5	2.95	2.7	3.0	2.4	2.35
17	2.7	2.4	2.4	2.4	2.4	3.8	3.5	3.05	2.7	3.1	2.3	2.4
18	2.6	2.4	2.4	2.3	2.4	3.35	3.5	3.3	2.6	3.1	2.4	2.4
19	2.6	2.4	2.3	2.3	2.45	3.25	3.5	3.45	2.6	3.1	2.4	2.4
20	2.6	2.4	2.4	2.4	2.45	4.05	3.35	3.6	2.6	2.7	2.4	2.4
21	2.5	2.4	2.5	2.4	2.4	4.1	3.3	4.0	2.6	2.65	2.4	2.4
22	2.4	2.4	2.4	2.3	2.5	3.9	3.3	4.05	2.25	2.6	2.5	2.4
23	2.4	2.4	2.4	2.4	1.8	4.15	3.3	4.0	2.65	2.6	2.45	2.4
24	2.3	2.3	2.5	2.4	2.3	4.4	3.3	3.8	2.6	2.6	2.25	2.5
25	2.3	2.3	2.5	2.4	2.45	4.4	3.2	3.45	2.6	2.6	2.4	2.5
26	2.3	2.3	2.6	2.0	2.4	4.15	3.2	3.35	2.6	2.6	2.4	2.6
27	2.3	2.2	2.5	2.4	2.45	4.1	2.8	3.3	2.6	2.4	2.4	2.5
28	2.3	2.2	2.5	2.5	2.4	3.9	3.1	3.25	2.6	2.6	2.4	2.3
29	2.3	2.2	a1.6	2.6	-----	4.2	3.1	3.2	2.4	2.9	2.4	2.4
30	2.3	2.3	2.5	2.5	-----	5.1	3.0	3.1	2.3	2.65	2.4	2.4
31	2.3	-----	2.5	2.4	-----	-----	-----	3.0	-----	2.55	2.4	-----

(a) Turbines in power house above gage shut down.

*Daily gage height in feet, of Red Cedar River at Cedar Falls, Wis.,  
for the years ending Sept. 30, 1909-1914.—(Concluded).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1913-14 (a)												
1-----	2.4	2.55	2.75	2.6	2.2	2.3	3.95	3.7	3.0	4.45	2.5	2.8
2-----	2.4	1.6	2.85	2.7	2.4	2.4	3.8	3.5	3.05	4.15	2.5	2.7
3-----	2.5	2.5	3.0	2.7	2.4	2.5	3.45	3.1	3.25	3.8	2.45	2.75
4-----	2.5	2.5	2.8	2.6	2.4	2.5	3.2	3.1	3.9	3.6	2.5	2.7
5-----	2.4	2.5	2.7	2.65	2.4	2.5	3.1	3.0	5.05	3.35	2.5	2.7
6-----	2.5	2.4	2.65	2.7	2.4	2.5	3.1	2.95	4.9	3.1	2.5	2.7
7-----	2.6	2.45	2.6	2.7	2.45	2.5	3.0	2.9	4.6	3.1	2.55	2.7
8-----	2.5	2.5	2.6	2.7	2.2	2.3	3.0	2.9	4.4	2.8	2.6	2.65
9-----	2.5	2.1	2.55	2.6	2.4	2.5	2.85	2.75	3.8	2.8	2.6	2.7
10-----	2.5	2.65	2.6	2.5	2.4	2.5	2.75	2.7	3.65	2.7	2.5	2.8
11-----	2.5	2.6	2.6	2.4	2.4	2.5	2.7	2.7	3.6	2.7	2.3	2.7
12-----	2.5	2.6	2.6	2.5	2.4	2.55	2.75	2.7	3.45	2.8	2.3	2.7
13-----	2.5	2.6	2.7	2.5	2.35	2.2	2.7	2.6	3.4	3.0	2.2	2.85
14-----	2.5	2.55	2.7	2.5	2.3	2.5	2.75	2.6	3.25	3.05	2.25	2.95
15-----	2.4	2.55	2.7	2.5	2.3	2.4	2.7	2.6	3.0	3.1	2.2	3.2
16-----	2.4	2.0	2.7	2.5	2.4	2.7	2.7	2.6	2.95	3.1	2.1	3.3
17-----	2.4	2.4	2.7	2.5	2.4	3.15	2.7	2.5	2.95	3.1	2.1	3.4
18-----	2.45	2.4	2.7	2.4	2.45	3.6	2.7	2.6	2.85	2.9	2.2	3.3
19-----	1.5	2.35	2.6	2.5	2.45	3.5	3.0	2.6	2.8	2.75	2.25	3.2
20-----	2.8	2.5	2.6	2.5	2.4	3.2	3.35	2.6	2.7	2.8	2.3	3.1
21-----	2.9	2.5	2.6	2.45	2.4	2.85	3.5	2.55	2.6	2.7	2.5	2.95
22-----	2.7	2.6	2.6	2.5	1.9	2.8	3.4	2.6	2.8	2.7	2.55	3.0
23-----	2.5	2.45	2.55	2.5	2.45	2.75	3.45	2.5	2.95	2.6	2.7	3.2
24-----	2.4	2.5	2.6	2.45	2.5	2.8	2.5	2.5	3.2	2.75	2.8	3.35
25-----	2.15	2.6	2.6	2.3	2.5	2.8	2.5	2.6	3.55	2.8	2.75	3.25
26-----	2.0	2.6	2.6	2.5	2.4	2.8	3.5	2.6	3.9	2.75	2.75	3.15
27-----	2.5	2.5	2.6	2.5	2.45	2.85	3.6	2.8	4.1	2.6	2.6	-----
28-----	2.4	2.6	2.2	2.5	2.5	3.0	3.6	3.25	5.75	2.6	2.65	-----
29-----	2.4	2.6	2.6	2.6	-----	3.3	3.55	3.3	5.35	2.55	2.7	-----
30-----	2.4	2.45	2.5	2.55	-----	3.8	3.7	3.25	4.85	2.6	2.6	-----
31-----	2.5	-----	2.6	2.5	-----	4.05	-----	3.1	-----	2.6	2.7	-----

(a) Albert Malhus, observer in 1913-14.

## RED CEDAR AT MENOMONIE, WIS.

**Location.**—About 900 feet below the power house of the Wisconsin & Minnesota Light & Power Co., about 13 miles above the confluence of the Red Cedar and Chippewa rivers. Wilson creek enters from the right into the service reservoir just above the station.

**Records available.**—June 16, 1907, to September 5, 1908; May 9, 1913, to September 30, 1914. Records for 1907-8 published in United States Geological Survey Water-Supply Paper 245.

**Drainage area.**—1,810 square miles.

**Gage.**—From June 16, 1907, to September 5, 1908, the gage was attached to a highway bridge about 200 rods west of the Chicago & North Western Railway station west of Menomonie; on May 9, 1913, a Barrett & Lawrence recording gage was installed over wooden intake and well on right bank of river about 1 mile above site of old gage. Relation between datums of the two gages not determined.

**Control.**—Heavy gravel and rock; permanent.

**Discharge measurements.**—Made from the highway bridge to which the old gage was fastened.

**Winter flow.**—Formation of ice on the control is prevented by the flow of relatively warm water from the service reservoir immediately above the gage; winter records as accurate as those of summer.

**Regulation.**—Considerable diurnal fluctuation in stage at the gage section is caused by the operation of the power plants of the Wisconsin & Minnesota Light & Power Co. at Menomonie and Cedar Falls, and minor changes are also caused by smaller plants on the tributaries of the Red Cedar above Menomonie.

**Floods.**—The flow of the water is so well controlled by dams at Menomonie and Cedar Falls and by natural storage in the headwaters that the occurrence of floods is unlikely.

**Accuracy.**—Rating curve carefully developed; mean stage accurately determined from recording gage; records excellent.

**Cooperation.**—Recording gage installed and gage height record furnished by the Wisconsin & Minnesota Light & Power Co.; discharge measurements and computations of flow made by United States Geological Survey.

*Discharge measurements of Red Cedar River at Menomonie, Wis.,  
during the years ending Sept. 30, 1913-1914.*

Date	Made by	Gage height	Discharge
1913		Feet	Sec.-feet
Mar. 18.....	W. G. Hoyt.....	2.26	667
Mar. 18.....	W. G. Hoyt.....	2.52	1,060
Mar. 20.....	S. B. Soulé.....	3.42	2,350
Mar. 20.....	S. B. Soulé.....	3.80	3,070
May 7.....	S. B. Soulé.....	2.78	1,410
1914			
Jan. 24.....	Hoyt and Steller.....	2.24	689
Sept. 9.....	H. C. Beckman.....	2.71	1,250
Sept. 10.....	H. C. Beckman.....	2.72	1,300
Sept. 10.....	H. C. Beckman.....	2.74	1,330

NOTE:—See "Gage" in station description. Gage heights for measurements made during 1907-8 refer to chain gage on the highway bridge about 200 yards West of the Chicago & North Western Railway station west of Menomonie. Gage heights for measurements made during 1913-14 refer to recording gage about 1 mile above the site of the old gage.

*Daily gage height, in feet, of Red Cedar River at Menomonie, Wis.,  
for the year ending Sept. 30, 1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1	2.42	2.49	2.64	2.30	2.18	2.16	3.8	3.65	2.95	3.28	2.52	2.64
2	2.41	2.17	2.75	2.37	2.30	2.21	3.5	3.25	2.98	3.11	2.38	2.57
3	2.43	2.35	2.99	2.46	2.43	2.37	3.12	3.12	2.92	2.57	2.72	2.61
4	2.42	2.56	2.75	2.22	2.41	2.42	3.02	2.99	a3.42	a3.02	2.58	2.70
5	2.28	2.55	2.72	2.39	2.39	2.41	3.03	3.04	4.6	3.39	2.62	2.55
6	2.66	2.56	2.60	2.56	2.45	2.38	3.04	3.05	5.35	3.33	2.59	2.60
7	2.85	2.55	2.25	2.47	2.38	2.40	2.90	3.05	4.85	3.01	2.41	2.70
8	2.52	2.46	2.46	2.46	2.19	2.22	2.89	2.95	4.55	2.85	2.62	2.71
9	2.87	2.40	2.36	2.46	2.30	2.21	2.86	2.97	2.64	2.94	2.36	2.64
10	2.73	2.36	2.30	2.45	2.44	2.39	2.78	2.69	3.11	2.86	2.54	2.68
11	2.52	2.58	2.40	2.14	2.38	2.37	2.86	3.13	3.65	2.82	2.50	2.62
12	2.26	2.46	2.48	2.23	2.47	2.34	2.43	2.61	3.12	2.67	2.43	2.60
13	2.50	2.59	2.64	2.22	2.45	2.29	2.56	2.78	3.19	2.85	2.50	2.67
14	2.52	2.48	2.32	2.23	2.53	2.49	2.72	2.63	2.55	a2.98	2.53	2.70
15	2.58	2.50	2.50	2.25	2.49	2.52	2.64	3.03	2.88	a3.00	2.52	3.08
16	2.42	2.22	2.48	2.34	2.42	2.36	2.62	2.57	2.74	3.02	2.16	3.25
17	2.40	2.32	2.58	2.58	2.45	2.58	2.52	2.41	2.80	3.07	2.50	a3.30
18	2.34	2.24	2.39	2.39	2.45	2.38	2.62	2.62	2.74	3.13	2.37	a3.30
19	2.23	2.26	2.40	2.40	2.44	3.46	2.65	2.71	2.71	a2.85	2.39	3.00
20	2.34	2.37	2.35	2.35	2.45	3.08	3.12	2.68	2.62	a2.95	2.31	2.85
21	2.60	2.30	2.06	2.06	2.32	2.90	3.51	2.56	2.65	2.81	2.32	2.88
22	2.61	2.36	2.16	2.16	2.14	2.57	3.37	2.62	2.86	2.79	2.38	2.94
23	2.56	2.39	2.31	2.53	2.21	2.77	3.23	2.61	2.73	2.75	2.30	3.16
24	2.58	2.44	2.22	2.37	2.54	2.69	3.17	2.09	3.30	2.65	2.54	3.20
25	2.27	2.57	1.94	2.28	2.40	2.49	3.01	2.68	3.48	2.66	2.83	3.20
26	2.18	2.48	1.83	2.37	2.37	2.67	3.06	2.68	3.75	2.54	2.17	3.06
27	2.41	2.43	2.31	2.48	2.36	2.83	3.10	2.88	4.3	2.67	2.56	2.66
28	2.65	2.60	2.14	2.51	2.38	2.82	3.25	3.17	5.05	2.80	2.61	2.73
29	2.58	2.56	2.44	2.44	-----	3.27	3.30	3.20	a4.5	2.70	2.60	2.74
30	2.54	2.56	2.58	2.36	-----	3.75	3.65	3.07	4.05	2.53	2.37	2.62
31	2.41	-----	2.38	2.43	-----	4.0	-----	3.09	-----	2.51	2.55	-----

(a) Gage height partly estimated.

NOTE:—Discharge relation probably not materially affected by ice during the year ending Sept. 30, 1914.



*Daily discharge, in second-feet, of Red Cedar River at Menomonie, Wis.  
for the years ending Sept. 30, 1907-1908; 1913-1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1907</b>												
1										1,630	1,090	1,310
2										2,970	1,040	1,220
3										3,110	1,070	1,210
4										1,910	999	1,120
5										1,490	1,050	1,060
6										2,360	1,240	984
7										1,730	1,150	1,010
8										1,390	1,060	970
9										1,520	1,020	992
10										1,510	1,040	1,030
11										1,350	1,030	977
12										1,190	948	955
13										1,130	948	948
14										1,090	970	970
15										1,270	999	941
16										2,400	992	1,120
17									845	5,050	984	1,140
18									1,010	4,100	999	926
19									1,010	2,400	2,830	3,840
20									1,040	2,050	2,640	4,600
21									977	1,800	2,140	6,120
22									1,060	1,720	1,660	4,690
23									1,230	2,520	1,300	3,220
24									1,260	1,880	1,260	2,480
25									1,230	1,360	1,230	2,430
26									1,140	1,310	1,130	2,460
27									1,080	1,220	1,140	1,850
28									1,020	1,180	1,110	1,430
29									1,020	1,120	1,230	1,800
30									1,120	1,080	1,220	1,510
31										1,120	1,310	
<b>1907-8</b>												
1	2,070	1,180	984	899	1,120	845	1,490	3,010	3,580	646	698	
2	1,700	1,560	833	948	999	1,040	1,820	2,870	2,160	771	725	
3	1,510	1,320	1,140	1,080	1,100	1,060	1,460	2,600	1,720	598	631	
4	1,590	1,360	858	948	1,230	948	1,540	2,800	1,560	754	646	
5	1,420	1,100	833	1,020	1,230	948	1,680	2,470	1,560	671	714	
6	1,340	1,060	789	948	1,100	948	2,050	1,770	1,940	646	725	
7	1,300	1,320	977	878	1,100	948	1,770	1,610	1,460	671	814	
8	1,310	100	1,080	970	948	970	1,580	1,360	1,320	814	754	
9	1,460	366	1,240	948	1,040	1,180	2,010	1,300	1,660	725	783	
10	1,190	984	1,180	783	1,130	1,020	1,880	1,880	1,510	671	682	
11	1,390	1,040	878	878	1,230	1,140	1,660	1,390	1,490	912	714	
12	1,300	999	926	1,060	1,320	2,050	2,050	1,300	1,720	948	754	
13	1,410	970	833	1,020	1,800	2,870	1,940	1,630	1,820	984	845	
14	1,510	754	725	926	1,960	3,290	1,510	1,320	2,340	984	754	
15	1,020	858	754	878	1,910	1,770	1,860	1,160	2,660	984	698	
16	1,460	845	878	948	2,100	1,560	1,960	845	3,010	814	682	
17	1,870	1,180	878	814	1,410	1,360	1,880	1,340	2,400	845	714	
18	984	1,180	845	845	1,140	984	1,630	1,510	1,660	754	754	
19	1,100	1,230	948	878	1,240	698	1,880	1,460	1,700	878	725	
20	912	1,100	258	948	1,020	926	2,200	1,540	1,610	878	845	
21	1,360	1,030	1,300	984	878	984	1,770	984	1,140	1,040	783	
22	912	1,090	912	1,270	999	999	1,510	1,460	1,510	1,120	814	
23	970	1,180	1,020	1,100	912	3,050	1,210	1,080	1,610	1,180	698	
24	999	1,080	878	1,100	970	3,570	1,510	1,510	1,360	1,240	646	
25	992	1,100	984	878	1,120	3,390	1,860	845	2,340	1,240	646	
26	1,010	1,150	771	754	1,020	2,100	3,220	2,100	2,220	1,240	682	
27	999	1,020	899	845	970	1,910	5,040	2,940	1,820	1,040	682	
28	1,160	1,080	1,060	646	899	1,490	4,780	2,730	2,400	783	671	
29	1,160	1,040	948	814	1,020	1,460	4,290	3,670	2,660	771	698	
30	646	845	1,140	1,100		1,530	3,900	3,850	1,940	878	583	
31	1,263		858	1,080		1,720		3,880		912	552	



*Daily discharge, in second-feet, of Red Cedar River at Menomonie, Wis., for the years ending Sept. 30, 1907-1908; 1913-1914.—(Concluded).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1913</b>												
1									1,550	1,030	1,100	710
2									1,480	942	1,010	955
3									1,390	818	686	994
4									1,050	720	830	929
5									940	1,330	806	1,010
6									1,060	3,300	842	1,070
7									1,050	3,260	854	770
8									955	3,010	916	968
9								554	1,250	2,490	981	968
10								1,050	1,060	1,800	650	981
11								955	903	1,600	916	878
12								1,010	842	1,550	916	770
13								1,180	890	990	782	1,120
14								1,120	878	1,500	916	734
15								1,150	530	1,620	1,050	942
16								1,430	1,150	1,580	1,020	1,030
17								1,350	1,210	1,610	929	988
18								1,960	1,050	1,550	772	854
19								2,250	903	1,480	830	942
20								2,450	890	1,070	842	916
21								2,170	929	1,280	1,010	746
22								3,110	554	1,110	1,010	1,010
23								2,290	818	1,060	1,070	994
24								2,290	1,020	1,110	758	952
25								2,030	1,020	1,160	1,080	903
26								2,020	942	1,100	1,120	1,120
27								1,860	866	734	1,100	1,050
28								1,760	1,070	994	1,060	554
29								1,540	1,010	1,120	991	968
30								1,840	968	1,030	942	916
31								2,050		1,330	566	
<b>1913-14</b>												
1	916	1,010	1,210	770	626	602	3,070	2,790	1,660	2,160	1,050	1,210
2	903	614	1,360	854	770	662	2,520	2,110	1,700	1,900	866	1,110
3	929	830	1,720	968	929	854	1,910	1,910	1,610	1,110	1,320	1,160
4	916	1,100	1,360	674	903	916	1,760	1,720	2,380	1,760	1,120	1,290
5	756	1,080	1,320	878	878	903	1,780	1,790	4,750	2,330	1,180	1,080
6	1,280	1,100	1,150	1,100	955	866	1,790	1,800	6,700	2,240	1,140	1,150
7	1,500	1,080	710	981	866	890	1,580	1,800	5,340	1,740	903	1,290
8	1,050	968	968	968	638	674	1,560	1,660	4,640	1,500	1,180	1,300
9	1,540	890	842	968	770	662	1,520	1,680	1,210	1,640	842	1,210
10	1,340	842	770	955	942	878	1,400	1,280	1,900	1,520	1,070	1,260
11	1,050	1,120	894	578	866	854	1,520	1,920	2,790	1,460	1,020	1,180
12	722	968	994	686	981	818	929	1,160	1,910	1,250	929	1,150
13	1,020	1,140	1,210	674	955	758	1,100	1,400	2,020	1,500	1,020	1,250
14	1,050	994	794	686	1,060	1,010	1,320	1,190	1,080	1,700	1,060	1,290
15	1,120	1,020	1,020	710	1,010	1,050	1,210	1,780	1,550	1,730	1,050	1,850
16	916	1,670	994	818	916	842	1,180	1,110	1,350	1,760	602	2,110
17	890	794	1,120	1,120	955	1,120	1,050	903	1,430	1,840	1,020	2,190
18	818	698	878	878	955	866	1,180	1,180	1,350	1,920	854	2,190
19	686	722	890	890	942	2,450	1,220	1,300	1,300	1,500	878	1,730
20	818	854	830	830	955	1,850	1,910	1,260	1,180	1,660	782	1,500
21	1,150	770	486	486	794	1,580	2,540	1,100	1,220	1,440	794	1,550
22	1,160	842	602	602	578	1,110	2,300	1,180	1,520	1,420	866	1,640
23	1,100	878	782	1,060	662	1,390	2,080	1,160	1,330	1,360	770	1,970
24	1,120	942	674	854	1,070	1,280	1,980	519	2,190	1,220	1,070	2,030
25	734	1,110	354	746	890	1,010	1,740	1,260	2,490	1,230	1,480	2,030
26	626	994	420	854	854	1,250	1,820	1,260	2,980	1,070	614	1,820
27	903	929	600	994	842	1,480	1,880	1,550	4,070	1,250	1,100	1,230
28	1,220	1,150	578	1,030	866	1,460	2,110	1,980	5,860	1,430	1,160	1,330
29	1,120	1,100	942	942		2,140	2,190	2,030	4,520	1,290	1,150	1,350
30	1,070	1,100	1,120	842		2,980	2,790	1,840	3,560	1,060	854	1,180
31	903		866	929		3,460		1,860		1,030	1,080	

(a) 12 hours only.

NOTE.—Daily discharge computed from a rating curve well defined between 530 and 7,730 second-feet (gage heights 2.1 and 5.7 feet).

Monthly discharge of Red Cedar River at Menomonie, Wis.,  
for the years ending Sept. 30, 1907-1908; 1913-1914.  
[Drainage area, 1,810 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1907						
June (17-30).....	1,260	845	1,070	0.591	0.31	B
July.....	5,050	1,080	1,870	1.03	1.19	B
August.....	2,830	948	1,250	.691	.80	B
September.....	6,120	926	1,840	1.02	1.14	B
1907-8						
October.....	2,070	646	1,270	.702	.81	B
November.....	1,560	100	1,040	.575	.64	B
December.....	1,300	258	923	.510	.59	B
January.....	1,270	646	942	.520	.60	C
February.....	2,100	878	1,200	.663	.72	C
March.....	3,570	698	1,570	.867	1.00	B
April.....	5,040	1,210	2,160	1.19	1.33	B
May.....	3,880	845	1,940	1.07	1.23	B
June.....	3,850	1,140	1,940	1.07	1.19	B
July.....	1,240	598	884	.488	.56	B
August.....	845	552	713	.394	.45	B
1913						
May (9-31).....	3,110	554	1,710	.945	.81	A
June.....	1,550	530	1,010	.558	.62	A
July.....	3,300	720	1,460	.807	.93	A
August.....	1,120	566	915	.506	.58	A
September.....	1,120	554	925	.511	.57	A
1913-14						
October.....	1,540	626	1,010	.558	.64	A
November.....	1,670	614	977	.540	.60	A
December.....	1,720	354	918	.507	.58	A
January.....	1,120	486	849	.469	.54	A
February.....	1,070	578	872	.482	.50	A
March.....	3,460	602	1,250	.691	.80	A
April.....	3,070	929	1,760	.972	1.08	A
May.....	2,790	519	1,530	.845	.97	A
June.....	6,700	1,080	2,590	1.43	1.60	A
July.....	2,330	1,030	1,550	.856	.99	A
August.....	1,480	602	994	.549	.63	A
September.....	2,190	1,080	1,490	.823	.92	A
The year.....	6,700	354	1,320	.729	9.35	-----

TREMPEALEAU RIVER AT DODGE, WIS.

**Location.**—At highway bridge in the village of Dodge, Wis., 9 miles above mouth of river.

**Records available.**—December 13, 1913, to September 30, 1914.

**Drainage area.**—633 square miles.

**Gage.**—Chain gage attached to downstream side of bridge; read twice daily, morning and evening, to half tenths; limits of use: half tenths below and tenths above 2.0 feet.

**Control.**—Sand; likely to shift at medium and high stages.

**Discharge measurements.**—Made from downstream side of bridge.

**Winter flow.**—Discharge relation affected by ice at gage; discharge determined from measurements made through the ice.

**Regulation.**—No power plants above station having sufficient storage capacity to affect the natural flow of the river.

**Accuracy.**—Records good except for a short period in May when there was a decided change in the discharge relation as shown by discharge measurements made during June.

*Discharge measurements of Trempealeau River at Dodge, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Dis-charge
1914		Feet	Sec.-feet
December 13 (a)	Canfield and Beckman	1.82	274
January 23 (b)	Hoyt and Steller	2.04	190
February 28 (b)	O. A. Steller	2.67	201
April 3 (c)	G. H. Canfield	3.46	682
May 13	H. C. Beckman	2.36	442
June 9	G. H. Canfield	8.40	3,540
June 10	G. H. Canfield	7.88	2,740
June 11	G. H. Canfield	6.45	1,600
June 12	G. H. Canfield	4.96	1,060
June 12	G. H. Canfield	4.27	796
June 13	G. H. Canfield	3.81	709
September 2	Beckman and Dillon	2.32	397
September 2	Beckman and Dillon	2.42	418

(a) Measurement made from bridge; some ice below bridge.

(b) Measurement made under complete ice cover.

(c) Control clear.

*Daily gage height, in feet, of Trempealeau River at Dodge, Wis.,  
for the year ending Sept. 30, 1914.*

[J. Johnson, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1				2.1	5.7	2.6	5.8	3.2	3.3	5.2	1.7	2.0
2				2.0	5.2	3.0	4.3	2.8	2.6	4.3	1.9	2.4
3				2.2	4.1	3.0	3.5	2.5	2.6	3.6	1.75	2.6
4				2.1	3.4	2.9	3.0	2.4	3.4	3.4	1.8	2.5
5				2.2	3.1	3.0	2.6	2.3	4.2	3.0	1.6	2.5
6				2.1	3.0	3.6	2.6	2.2	5.2	2.7	1.7	2.6
7				2.2	3.0	4.2	2.7	2.1	6.4	2.6	1.6	2.2
8				2.2	2.8	4.0	2.8	1.9	7.2	2.7	1.7	1.8
9				2.2	2.6	3.7	2.8	1.9	8.3	2.4	1.55	1.8
10				2.2	2.6	3.8	2.7	2.0	7.7	2.2	1.6	1.75
11				2.2	2.6	3.8	2.6	2.2	6.6	2.3	1.6	1.8
12				2.2	2.6	3.8	2.6	2.3	4.7	3.0	1.7	1.8
13			1.9	2.2	2.6	3.9	2.5	2.2	4.0	4.2	1.55	1.7
14			1.85	2.4	2.6	4.4	2.4	2.2	4.0	4.8	1.65	2.4
15			1.7	2.2	2.6	4.7	2.3	1.9	3.8	4.6	1.55	3.2
16			1.8	2.2	2.5	4.9	2.3	1.9	3.4	3.1	1.65	3.2
17			1.8	2.4	2.5	5.0	2.3	1.8	3.0	2.7	1.6	2.8
18			1.75	2.2	2.6	4.8	2.3	1.6	2.7	2.6	1.7	2.5
19			1.8	2.2	2.5	4.1	2.4	1.6	2.6	2.2	1.75	2.3
20			1.85	2.2	2.5	3.4	2.6	1.5	2.6	2.0	1.95	2.1
21			1.3	2.2	2.5	3.0	2.5	2.3	2.8	2.0	1.8	2.0
22			1.75	2.2	2.5	2.8	2.3	2.9	2.7	2.0	1.85	2.2
23			2.0	2.2	2.5	2.7	2.2	2.8	7.8	1.95	2.2	2.5
24			2.2	2.3	2.4	2.8	2.2	2.9	2.8	2.5	3.0	2.3
25			2.2	2.2	2.5	2.6	3.6	3.0	3.2	2.6	2.4	2.1
26			2.2	2.0	2.5	2.5	3.3	2.7	3.3	2.6	2.1	1.9
27			1.85	2.1	2.5	2.5	3.4	3.3	4.7	1.9	1.8	1.9
28			2.2	2.4	2.7	2.5	3.6	3.8	5.4	2.0	1.9	1.85
29			2.0	4.6		3.4	3.9	4.5	6.1	1.8	1.8	1.8
30			2.0	5.0		4.8	3.6	4.4	6.0	1.8	1.7	1.75
31			2.1	5.4		5.8		4.0		1.7	1.9	

NOTE.—Discharge relation affected by ice about Dec. 13, 1913, to Mar. 15, 1914.

# Railroad Commission Report

*Daily discharge, in second-feet, of Trempealeau River at Dodge, Wis.,  
for the year ending Sept. 30, 1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1							1,420	619	582	1,100	294	340
2							910	528	438	827	324	404
3							691	465	438	653	302	438
4							573	445	605	605	309	421
5							485	426	801	514	279	421
6							485	408	1,100	456	294	438
7							506	391	1,570	438	279	372
8							528	359	2,080	456	294	309
9							528	359	3,360	404	272	399
10							506	375	2,550	372	279	302
11							485	408	1,670	388	279	309
12							485	426	937	514	294	309
13							465	408	750	801	272	294
14							445	408	750	967	286	404
15							426	359	701	908	272	559
16						1,090	426	359	605	536	286	559
17						1,120	426	343	514	456	279	474
18						1,060	426	314	456	438	294	421
19						850	445	314	438	372	302	388
20						667	485	300	438	340	332	356
21						573	465	426	474	340	309	340
22						528	426	550	456	340	316	372
23						506	408	528	2,660	332	372	421
24						528	408	550	474	421	514	388
25						485	716	573	559	438	404	356
26						465	643	506	582	438	356	324
27						465	667	643	937	324	309	324
28						465	716	766	1,170	340	324	316
29						667	792	970	1,440	309	309	309
30						1,060	716	853	1,400	309	294	302
31						1,420		750		294	324	

NOTE.—Daily discharge, Mar. 16 to May 29, computed from a fairly well defined rating curve; daily discharge, May 30 to Sept. 30, computed from a rating curve well defined between 340 and 3,530 second-feet (gage heights, 2.0 and 8.4 feet).

Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements, and climatologic records, as follows: Dec. 13-20, 270 second-feet; Dec. 21-31, 285 second-feet; Jan. 1-10, 270 second-feet; Jan. 11-20, 240 second-feet; Jan. 21-31, 350 second-feet; Feb. 1-10, 410 second-feet; Feb. 11-20, 205 second-feet; Feb. 21-28, 180 second-feet; and Mar. 1-15, 600 second-feet.

*Monthly discharge of Trempealeau River at Dodge, Wis.,  
for the year ending Sept. 30, 1914.*

[Drainage area, 633 square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
December (13-31)			279	0.441	0.31	C
January			289	.457	.53	D
February			271	.428	.45	D
March	1,420		676	1.07	1.23	C
April	1,420	408	570	.900	1.00	A
May	970	300	488	.771	.89	B
June	3,360	438	1,030	1.63	1.82	A
July	1,100	294	498	.787	.91	A
August	514	272	311	.491	.57	B
September	559	294	376	.594	.66	A

**BLACK RIVER AT NEILLSVILLE, WIS.**

**Location.**—At lower highway bridge, city of Neillsville, Wis., O'Neill Creek enters from the left about 1 mile above the gage, and Cunningham Creek, also from the left, about  $1\frac{1}{2}$  miles below.

**Records available.**—April 7, 1905, to March 31, 1909; December 11, 1913, to September 30, 1914. Records April 7, 1905, to March 31, 1909, published in United States Geological Survey Water-Supply Papers 171, 207, 245, and 265.

**Drainage area.**—774 square miles; area used in previous water-supply papers as 675 square miles.

**Gage.**—Chain gage fastened to downstream side of highway bridge; read twice daily, morning and evening, to quarter tenths; limits of use: hundredths below 3.5 feet, half tenths between 3.5 and 4.5 feet, and tenths above 4.5 feet.

**Discharge measurements.**—Made from bridge and by wading.

**Floods.**—On June 6, 1905, the river reached a stage of 19.8 feet; on June 5, 1914, a stage of 19.55 feet. A rating curve, developed during June, 1914, when discharge measurements were made at a stage of 12.53 feet, indicates that the discharge June 6, 1905, was approximately<sup>1</sup> 29,400 second-feet, and on June 5, 1914, 28,700 second-feet.

**Winter flow.**—Discharge relation affected by ice.

**Regulation.**—Marked diurnal fluctuations, especially during low stages, are caused by the operation of power plants above.

**Accuracy.**—Medium and high stage records excellent; low-stage records, especially during the winter, only fair, owing to diurnal fluctuations.

<sup>1</sup> Previously determined as 23,000 second-feet, from a curve, the highest measurement of which was made at a stage of only 7.7 feet.

*Discharge measurements of Black River at Neillsville, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
1914		Fert	Sec. feet
December 11 (a).....	G. H. Canfield.....	3.42	186
January 24 (b).....	H. C. Beckmann.....	3.30	47.8
March 2 (b).....	O. A. Steller.....	2.30	38.2
April 10.....	M. F. Rather.....	4.40	620
May 12.....	H. C. Beckman.....	4.37	621
June 6.....	G. H. Canfield.....	12.53	11,200
June 8.....	G. H. Canfield.....	8.60	4,430
June 10.....	G. H. Canfield.....	5.88	1,630
September 4.....	E. E. Dillon.....	4.28	559
September 5.....	H. C. Beckman.....	3.87	414

(a) Ice at control section.

(b) Measurement made under complete ice cover.

# Railroad Commission Report

*Daily gage height, in feet, of Black River at Neillsville, Wis.,  
for the year ending Sept. 30, 1914.*

[A. Bissell, observer.]

	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1				2.95	5.9	3.9	6.9	7.6	4.25	7.0	2.75	3.11
2				3.05	5.6	3.05	6.9	6.7	3.9	6.8	2.68	3.40
3				2.95	5.2	2.75	6.5	6.1	3.85	5.8	2.49	4.3
4				2.8	5.0	3.1	6.0	5.6	10.8	5.0	2.55	4.3
5				2.65	5.0	3.2	5.5	5.2	17.5	4.4	2.41	5.5
6				2.9	4.8	3.9	5.3	5.1	13.2	4.2	2.50	5.7
7				2.7	4.7	3.3	5.1	4.8	11.2	3.9	2.34	4.3
8				2.7	4.5	3.2	4.8	4.7	9.0	3.55	2.40	3.75
9				2.7	4.35	3.1	4.6	4.5	7.3	3.36	2.38	3.40
10				2.7	4.5	3.1	4.4	4.3	6.0	3.22	2.54	3.21
11				2.65	4.3	3.25	4.4	4.25	5.3	3.08	2.59	3.45
12				2.65	4.2	3.65	4.4	4.4	4.6	3.8	2.54	3.75
13				2.15	4.2	4.4	4.5	4.3	4.15	6.0	2.65	3.85
14				2.95	4.3	5.6	4.9	4.05	3.9	5.2	2.70	4.9
15				3.1	4.2	6.6	5.2	4.05	3.85	4.5	2.49	7.9
16				3.05	3.55	6.3	5.3	3.75	4.45	3.9	2.52	7.5
17				3.1	3.3	6.9	5.6	3.55	4.15	3.5	2.41	7.4
18				3.25	4.05	6.4	5.7	3.44	3.8	3.25	3.35	6.5
19			3.0	3.1	3.15	6.1	6.5	3.30	3.65	3.04	2.99	5.7
20			2.85	3.0	3.0	5.6	6.7	3.25	3.65	2.98	4.1	4.8
21			2.75	3.0	3.8	5.3	6.4	4.8	4.3	3.12	4.2	4.3
22			2.85	2.9	4.2	5.0	6.0	9.1	4.5	2.81	3.75	4.2
23			2.6	3.2	2.8	4.7	5.7	7.7	4.2	2.85	3.7	4.6
24			2.8	3.2	2.95	4.6	5.5	6.7	4.25	2.72	3.55	4.5
25			2.6	3.0	3.0	4.6	8.7	6.0	4.3	2.68	3.9	4.3
26			2.7	3.3	2.8	4.5	8.2	5.3	4.5	2.61	3.95	4.2
27			2.7	3.3	3.0	4.6	7.7	6.7	7.2	2.62	3.55	3.95
28			2.65	3.5	3.0	4.8	8.1	5.8	8.4	2.71	3.4	3.75
29			2.6	5.9		7.4	9.1	5.6	8.0	2.68	3.3	3.55
30			2.7	5.5		9.1	8.7	5.4	6.9	2.68	3.12	3.44
31			2.85	5.4		6.9		4.8		2.86	3.16	

NOTE.—Discharge relation affected by ice Dec. 11, 1913, to about Mar. 31, 1914.

*Daily discharge, in second-feet, of Black River at Neillsville, Wis.,  
for the years ending Sept. 30, 1905-1909; 1913-1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1905</b>												
1								267	379	750	80	235
2								267	235	750	60	205
3								570	205	1,060	60	301
4								1,320	3,350	2,220	60	267
5								1,250	12,100	4,120	125	338
6							3,900	1,060	23,100	3,680	80	205
7							3,350	1,120	16,200	2,480	635	177
8							2,570	870	8,000	1,750	525	150
9							1,980	870	4,580	1,320	525	125
10							1,820	1,750	3,250	930	301	102
11							1,600	2,310	4,340	635	235	80
12							1,460	2,400	3,680	424	235	102
13							1,180	1,980	2,750	473	235	80
14							990	6,910	1,980	525	235	80
15							1,870	6,140	1,460	990	205	692
16							692	5,060	1,680	810	150	1,820
17							473	4,460	7,590	525	125	1,820
18							424	3,900	6,910	424	150	1,900
19							635	2,310	4,340	635	150	4,340
20							473	1,820	2,660	692	150	4,010
21							205	1,320	1,820	525	205	3,150
22							177	1,180	1,250	424	301	2,060
23							177	1,060	810	235	267	1,680
24							301	930	579	177	338	930
25							267	692	473	177	267	635
26							267	635	379	150	235	473
27							267	579	301	125	205	424
28							267	473	235	125	150	379
29							267	473	235	102	267	338
30							267	424	301	102	301	424
31								424		80	235	
<b>1905-6</b>												
1	301	379	525				5,300	635	1,180	379	205	205
2	301	301	635				8,420	870	990	301	150	810
3	267	301	424				8,700	1,120	692	473	105	810
4	267	301	379				8,140	1,250	525	635	70	930
5	150	301	424				7,720	1,180	635	525	105	810
6	150	379	301				7,300	930	2,060	338	150	150
7	177	579	301				6,780	750	2,570	235	126	424
8	80	579	267				7,860	635	2,310	177	105	267
9	20	473	235				6,910	692	1,750	150	44	126
10	177	424	267				6,020	692	1,380	177	44	150
11	150	379	267				4,700	579	870	150	44	150
12	150	379	301				4,460	473	579	150	56	150
13	150	338	267				4,230	2,570	424	105	44	150
14	150	301	267				4,580	2,950	301	105	44	126
15	525	267	301				4,230	2,310	235	105	34	126
16	1,060	267	267				3,250	1,750	205	86	34	235
17	1,380	267	235				2,400	1,380	177	86	44	235
18	1,460	267	150				1,980	1,060	150	70	44	267
19	1,520	267	150				1,820	810	126	86	34	235
20	2,310	235	205				1,820	579	150	86	34	205
21	2,570	205	177				1,680	525	177	70	26	205
22	2,220	205	177				1,380	525	338	70	70	177
23	1,750	205	235				1,060	579	473	26	150	150
24	1,460	301	301				990	635	579	20	424	205
25	1,120	635	301				750	1,820	473	20	579	205
26	870	870	301				750	1,750	379	44	750	177
27	750	810	267				692	5,180	473	44	692	150
28	579	692	267				635	4,010	579	56	579	150
29	473	473	267				579	2,850	635	44	473	126
30	379	379	301				635	2,220	473	525	379	105
31	338		301					1,680		379	267	



*Daily discharge, in second-feet, of Black River at Neillsville, Wis., for the years ending Sept. 30, 1905-1909; 1913-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1906-7</b>												
1	86	635	1,460				3,350	817	334	183	55	55
2	126	473	1,250				2,570	757	215	251	49	49
3	86	424	1,060				2,300	642	154	215	43	49
4	86	473	810				2,570	533	154	291	43	49
5	86	428	635				2,390	480	129	2,570	49	154
6	56	379	424				2,130	380	108	6,200	49	62
7	56	379	635				2,220	380	108	533	49	55
8	56	379	810				1,720	291	92	1,140	49	55
9	56	338	930				1,570	291	92	757	49	43
10	56	379	990				1,640	251	80	480	49	70
11	86	338	990				1,500	251	108	291	62	43
12	44	338	990				1,500	215	129	183	55	38
13	44	235	870				1,350	215	215	129	49	38
14	44	205	692				1,070	291	251	183	49	49
15	44	235	692				941	1,200	154	154	49	43
16	56	205	810				878	1,720	108	154	55	62
17	56	579	870				817	1,570	108	129	49	55
18	86	1,180	870				699	1,270	108	108	38	62
19	86	990	810				699	878	108	108	642	2,220
20	150	870					587	642	108	108	291	2,660
21	301	750					533	480	129	108	154	2,130
22	267	379					480	1,500	480	183	154	1,640
23	267	424				5,060	429	1,200	429	108	183	1,270
24	379	338				6,140	480	941	429	80	92	941
25	635	424				7,720	533	757	429	70	70	757
26	1,250	1,460				9,300	642	1,070	251	70	70	480
27	1,250	2,400				9,300	587	941	154	62	70	380
28	1,060	2,310				7,300	587	699	108	55	62	291
29	930	2,060				8,420	817	587	92	92	55	215
30	870	1,980				6,650	878	380	129	55	55	183
31	635					4,940		291		49	55	
<b>1907-8</b>												
1	154	62	70				1,200	2,300	4,230	380	108	49
2	129	62	80				1,200	1,800	2,480	533	92	43
3	129	70	80				1,140	1,350	1,570	291	92	43
4	129	70	70				1,000	1,070	941	291	80	43
5	129	108	108				1,350	878	699	480	70	38
6	154	108	80				1,880	757	480	4,340	49	38
7	183	92	70				2,040	587	587	5,900	49	33
8	129	70	80				1,960	533	4,120	230	49	33
9	129	92	92				2,040	429	3,900	2,750	55	33
10	108	92	70				2,660	334	2,570	1,800	49	33
11	129	80	80				2,390	380	1,880	1,200	49	33
12	108	80	92				2,220	878	1,420	757	49	33
13	108	62	80				2,750	1,570	3,460	480	49	33
14	92	55	70				2,300	1,500	2,750	334	49	33
15	215	70	70				2,480	1,720	1,880	334	49	33
16	92	62	55				2,130	1,570	1,140	215	80	33
17	80	70	108				1,800	1,270	757	215	70	33
18	80	70	55				1,720	1,420	587	183	55	33
19	80	62	70				1,720	3,050	699	183	49	33
20	70	62	70				1,640	2,300	429	154	49	33
21	55	70	62				1,420	1,640	429	154	49	29
22	55	80					1,270	5,660	291	129	49	29
23	55	70					1,140	3,680	1,420	129	49	29
24	55	92					1,200	2,950	1,070	129	49	29
25	55	108					1,880	2,850	757	70	43	29
26	55	108					2,300	2,850	480	80	43	29
27	62	92					7,040	2,040	380	80	43	62
28	62	92					6,910	1,720	291	70	43	49
29	55	92					4,940	1,570	251	70	43	55
30	62	70					3,250	4,340	380	80	43	92
31	62							5,900		215	49	



*Daily discharge, in second-feet, of Black River at Neillsville, Wis., for the years ending Sept. 30, 1905-1909; 1913-1914.—(Concluded).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept
<b>1908-9</b>												
1	154	154	215									
2	108	129	215									
3	108	108	251									
4	92	108	251									
5	80	92	251									
6	80	92	291									
7	70	80	380									
8	70	80	334									
9	62	70	183									
10	62	92	154									
11	55	92	154									
12	55	70	154									
13	49	70	129									
14	49	68	108									
15	49	80	108									
16	49	70	92									
17	43	92	108									
18	52	80	108									
19	49	70	92									
20	55	62										
21	58	92										
22	62	92										
23	62	80										
24	70	183										
25	80	251										
26	334	380										
27	380	817										
28	334	757										
29	312	587										
30	215	480										
31	183											
<b>1913-14</b>												
1							2,560	3,260	565	2,660	72	129
2							2,560	2,360	400	2,460	64	210
3							2,160	1,800	380	1,570	47	590
4							1,720	1,430	7,960	1,010	52	590
5							1,360	1,150	23,000	645	43	1,360
6							1,220	1,080	12,500	540	48	1,500
7							1,080	880	8,640	400	39	590
8							880	820	5,000	262	42	340
9							760	700	2,960	197	41	210
10							645	590	1,720	156	51	153
11							645	565	1,220	123	55	228
12							645	645	760	360	51	340
13							700	590	515	1,720	61	380
14							945	468	400	1,150	66	945
15							1,150	468	380	700	47	3,570
16							1,220	340	672	400	50	3,160
17							1,430	262	515	245	43	3,060
18							1,500	224	360	164	197	2,160
19							2,160	178	300	116	106	1,500
20							2,360	167	300	105	490	880
21							2,070	880	590	132	540	590
22							1,720	5,160	700	79	340	540
23							1,500	3,360	540	86	320	760
24							1,360	2,360	565	68	262	700
25							4,560	1,720	590	64	400	590
26							3,910	1,220	700	57	422	540
27							3,360	2,360	2,860	58	262	422
28							3,790	1,570	4,160	67	210	340
29							5,160	1,430	3,680	64	178	262
30							4,560	1,290	2,560	64	132	224
31								880		86	141	

NOTE:—Discharge table for 1905 differs from that published in U. S. Geol. Survey Water-Supply Paper 171 in the use here of three significant figures. Daily discharge determined as follows: Apr. 6, 1905, to Dec. 19, 1906, from a rating curve, well defined between 235 and 3,350 second-feet, and poorly-defined beyond these limits; Mar. 23, 1907, to Dec. 19, 1908, from a rating curve, well defined between 70 and 3,680 second-feet; Apr. 1 to Sept. 30, 1914, from a rating curve, fairly-well defined below 445 second-feet (gage height 4.0 feet), well-defined between 445 and 14,300 second-feet (gage heights 4.0 and 14.0 feet).

Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements, and climatologic records, as follows: Dec. 11-20, 96 second-feet; Dec. 21-31, 54 second-feet; Jan. 1-10, 51 second-feet; Jan. 11-20, 67 second-feet; Jan. 21-31, 232 second-feet; Feb. 1-10, 392 second-feet; Feb. 11-20, 84 second-feet; Feb. 21-28, 48 second-feet; Mar. 1-10, 80 second-feet; Mar. 11-20, 1,210 second-feet; Mar. 21-31, 1,330 second-feet.

Monthly discharge of Black River at Neillsville, Wis., for the years ending  
Sept. 30, 1905-1909; 1913-1914.

[Drainage area, 774 square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1905						
April (6-30).....	3,900	177	1,040	1.34	1.25	-----
May.....	6,910	267	1,770	2.29	2.64	-----
June.....	23,100	205	3,840	4.96	5.53	-----
July.....	4,120	80	884	1.14	1.31	-----
August.....	635	60	229	.296	3.41	-----
September.....	4,340	80	918	1.19	1.33	-----
1905-6						
October.....	2,570	20	750	0.969	1.12	-----
November.....	870	205	392	.506	.56	-----
December.....	635	150	292	.377	.43	-----
January.....	-----	-----	-----	-----	-----	-----
February.....	-----	-----	-----	-----	-----	-----
March.....	-----	-----	-----	-----	-----	-----
April.....	8,700	579	3,860	4.99	5.57	-----
May.....	5,180	473	1,450	1.87	2.16	-----
June.....	2,570	126	730	.943	1.05	-----
July.....	635	20	184	.238	.27	-----
August.....	750	26	188	.243	.28	-----
September.....	930	105	274	.354	.40	-----
1906-7						
October.....	1,250	44	298	0.385	0.44	-----
November.....	2,400	205	733	.947	1.06	-----
December (1-19).....	1,460	424	874	1.13	.80	-----
January.....	-----	-----	-----	-----	-----	-----
February.....	-----	-----	-----	-----	-----	-----
March (23-31).....	9,300	4,940	7,200	9.30	3.11	B
April.....	3,350	429	1,280	1.65	1.84	A
May.....	1,720	215	707	.913	1.05	A
June.....	480	80	183	.236	.26	B
July.....	6,200	49	487	.629	.73	B
August.....	642	38	91.7	.118	.14	B
September.....	2,660	38	473	.611	.68	B

Monthly discharge of Black River at Neillsville, Wis., for the years ending Sept. 30, 1905-1909; 1913-1914.—(Concluded).

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy.
	Maximum	Minimum	Mean	Per square mile		
1907-8						
October.....	215	55	98.7	0.128	0.15	B
November.....	108	55	79.1	.102	.11	B
December (1-21).....	108	55	76.8	.099	.08	B
January.....						
February.....						
March.....						
April.....	7,040	1,000	2,300	2.97	3.31	A
May.....	5,900	334	1,960	2.53	2.92	A
June.....	4,230	251	1,410	1.82	2.03	A
July.....	5,900	70	847	1.09	1.26	A
August.....	108	43	56.3	.073	.08	C
September.....	92	29	38.3	.049	.05	D
1908-9						
October.....	380	43	112	.145	.17	B
November.....	817	62	183	.236	.26	B
December (1-19).....	380	92	188	.243	.17	
January.....			98	.127	.15	D
February.....			54	.070	.07	D
March.....			139	.180	.21	D
1913-14						
December (11-31).....			74	.096	.07	D
January.....			120	.155	.18	D
February.....			184	.238	.25	D
March.....			888	1.15	1.33	D
April.....	5,160	645	1,990	2.57	2.87	A
May.....	5,160	167	1,300	1.68	1.94	B
June.....	23,000	300	2,850	3.68	4.11	A
July.....	2,660	57	510	.659	.76	B
August.....	540	39	157	.203	.23	B
September.....	3,570	129	895	1.16	1.29	B

NOTE:—Monthly discharge for 1905 differs from that published in U. S. Geol. Survey Water-Supply Paper 171 on account of publishing the above values to three significant figures. Discharge in “second-feet per square mile” and run-off “depth in inches,” for 1905—1909 differ from those published in U. S. Geol. Survey Water-Supply Papers 171, 207, 245, and 265 on account of revising and changing the drainage area from 675 to 774 square miles. Monthly mean discharges for 1906 are good, except July and August which are fair. During the frozen period in 1906 the discharge probably seldom exceeded 500 second-feet and attained a minimum of at least 150, and probably much less. The monthly mean discharges for January to March, 1909, are based on one discharge measurement made during the period, a study of climatologic data, and observer's notes on ice conditions. See footnote to table of daily discharge.

BLACK RIVER AT MELROSE, WIS.

- Location.—At highway bridge 1 mile south of Melrose, Wis.
- Records available.—December 4, 1902, to August 1, 1903. Records also published in U. S. Geol. Survey Water-Supply Papers, 83 and 98.
- Drainage area.—Not measured.
- Gage.—Vertical staff gage attached to piling supporting bridge; read once daily to nearest half tenth; limit of use; half tenths at all stages.
- Control.—Sand and gravel.
- Discharge measurements.—Made from highway bridge to which gage is attached.

*Discharge measurements of Black River at Melrose, Wis., during the year ending Sept. 30, 1903.*

Date	Made by	Gage-height	Discharge
1902-3		Feet	Sec.-feet
Nov. 12-----	L. R. Stockman-----	4.50	1,040
Dec. 26-----	L. R. Stockman-----	5.7	1,560
Jan. 15 (a)-----	L. R. Stockman-----	4.3	598
Feb. 7 (a)-----	L. R. Stockman-----	4.30	508
April 4-----	L. R. Stockman-----	5.90	2,980
May 1-----	L. R. Stockman-----	11.00	10,900
June 13-----	L. R. Stockman-----	3.90	842

(a) Ice present in river when measurement was made.

*Daily gage height, in feet, of Black River at Melrose, Wis., for year ending Sept. 30, 1903.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1-----				5.05	4.1	4.3	5.1	11.0	7.6	3.6	3.75	
2-----				5.0	4.1	4.35	4.85	10.0		6.7		
3-----				4.9	4.1	4.4	5.3	10.25		11.2		
4-----			3.75	4.75	4.1	4.45	5.65	10.5		10.9		
5-----			3.95	4.6	4.1	4.6	5.9	9.65	6.0	13.0		
6-----			4.0	4.6	4.2	4.75	6.5	9.05	4.7	12.3		
7-----			3.8	4.5	4.2		6.65	8.15	4.4	10.2		
8-----			4.35	4.5	4.2	6.25	6.5	7.0	4.3	7.9		
9-----			4.35		4.2	8.2	6.2	6.95	4.25	6.9		
10-----			4.3	4.4	4.2	9.3	5.5	6.55	4.0	7.4		
11-----			4.35	4.4	4.3	9.7	5.6	6.1	4.0	8.7		
12-----			4.2	4.4	4.25	10.75		6.65	3.95	7.2		
13-----			4.2	4.4	4.2	12.05	5.45	10.6	3.85	6.7		
14-----			4.1	4.4	4.2	12.55	5.6	12.0	3.8	6.2		
15-----			4.15		4.2	11.55	5.95	10.9	3.8	5.8		
16-----			4.1	4.3	4.1	9.85	5.85	9.15	3.8	5.3		
17-----			4.0	4.3	4.15	9.4	6.05	7.8	3.7	4.5		
18-----			4.0	4.3	4.0	10.35	5.6	6.55	3.7	4.2		
19-----			4.05	4.3	3.95	11.95	5.0	6.5	3.7	4.1		
20-----			4.25	4.2	3.9	13.40	5.15	6.4	3.7	4.0		
21-----			4.6	4.2	3.9	12.9	4.5	6.3	3.7	4.0		
22-----			4.95	4.2	4.0	11.4	4.65	5.9	3.7	4.0		
23-----			5.8	4.2	4.0	9.65	4.3	6.5	3.7	3.9		
24-----			6.05	4.2	4.0	8.05	4.3	5.7	3.6	3.9		
25-----			5.85	4.2	4.05	7.65	4.35	5.8	3.6	3.9		
26-----			5.8	4.2	4.1	6.65	4.65	5.95	3.5	3.75		
27-----			5.65	4.2	4.2	6.0	4.85	8.4	3.5	3.9		
28-----			5.5	4.2	4.35	6.55	5.0	11.85	3.5	4.2		
29-----			5.35	4.2		5.7	5.65	12.6	3.5	4.0		
30-----			5.2	4.2		6.55	6.8	10.95	3.5	3.8		
31-----				4.1		5.3		9.50		3.75		

**LA CROSSE RIVER NEAR WEST SALEM, WIS.**

**Location.**—At highway bridge 2 miles west of West Salem, Wis., and 10 miles above the mouth of the river. Dutch Creek enters from the right 6 miles above the station.

**Drainage area.**—412 square miles.

**Records available.**—December 22, 1913, to September 30, 1914.

**Gage.**—Chain gage fastened to concrete guard-rail on the upstream side of bridge; read twice daily, morning and evening, to quarter tenths; limits of use: hundredths below 1.0 foot, half tenths between 1.0 and 2.0 feet, and tenths above 2.0 feet.

**Control.**—Heavy gravel and rock; probably permanent. The section at the bridge was originally unfavorable for making accurate discharge measurements. The channel was however cleaned out during the summer of 1914, making accurate discharge measurements possible.

**Discharge measurements.**—Made from upstream side of bridge during medium and high stages; by wading during low stages. A stay-wire has been erected upstream from the bridge for use during high water.

**Regulation.**—During low stages a small diurnal fluctuation at the gage is caused by operation of power plant above.

**Accuracy.**—Results only fair; accuracy of records impaired by artificial regulation of flow.

*Discharge measurements of La Crosse River near West Salem, Wis., during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
Dec. 22(a)	H. C. Beckman	1.16	186
Jan. 22(a)	O. A. Steller	1.45	169
Jan. 22(a)	W. G. Hoyt	1.32	174
Feb. 27(a)	O. A. Steller	1.34	203
Mar. 28	H. C. Beckman	1.32	194
June 23	H. C. Beckman	2.37	626
June 25	H. C. Beckman	1.80	375
June 29	G. H. Canfield	4.27	1,230
June 29	G. H. Canfield	3.85	1,080
June 29	G. H. Canfield	3.70	1,020
June 30	G. H. Canfield	2.79	774
Aug. 31	Beckman and Dillon	1.48	235
Sept. 1	Beckman and Dillon	1.48	223

(a) Measurement made under partial ice conditions.

NOTE:—See "Control" in station description.

*Daily gage height, in feet, of La Crosse River near West Salem, for the year ending Sept. 30, 1914.*

[Henry Schucht, observer]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1				1.45	1.65	1.8	1.9	1.75	1.55	2.2	1.5	1.7
2				1.45	1.6	2.0	1.85	1.7	1.45	2.2	1.5	1.75
3				1.45	1.5	1.65	1.75	1.6	1.5	2.1	1.5	1.6
4				1.45	1.5	1.75	1.65	1.6	1.55	2.0	1.5	1.5
5				1.45	1.45	2.0	1.5	1.65	1.9	1.9	1.5	1.4
6				1.45	1.4	2.1	1.55	1.5	1.95	1.75	1.4	1.4
7				1.4	1.4	2.0	1.6	1.55	2.0	1.7	1.4	1.4
8				1.45	1.3	2.0	1.6	1.4	2.4	1.7	1.45	1.45
9				1.5	1.45	1.8	1.55	1.45	3.2	1.75	1.4	1.45
10				1.4	1.4	1.75	1.5	1.4	2.3	1.6	1.45	1.4
11				1.4	1.5	1.8	1.5	1.5	1.9	1.6	1.5	1.5
12				1.2	1.5	1.6	1.5	1.5	1.75	2.5	1.45	1.4
13				1.1	1.4	1.65	1.55	1.5	1.65	2.5	1.5	1.55
14				1.4	1.45	1.7	1.5	1.4	1.7	2.2	1.4	1.9
15				1.6	1.4	1.7	1.5	1.5	1.8	1.7	1.35	2.0
16				1.55	1.4	1.7	1.5	1.4	1.7	1.6	1.5	1.95
17				1.45	1.3	1.65	1.5	1.4	1.7	1.65	1.45	1.8
18				1.4	1.4	1.55	1.55	1.4	1.65	1.6	1.65	1.8
19				1.4	1.4	1.5	1.5	1.35	1.6	1.55	1.7	1.7
20				1.55	1.5	1.4	1.65	1.3	1.6	1.55	1.7	1.5
21				1.4	1.5	1.4	1.6	1.55	2.3	1.6	1.5	1.5
22			1.15	1.35	1.3	1.3	1.6	1.7	2.5	1.55	1.5	1.65
23			1.6	1.7	1.5	1.4	1.5	1.75	2.4	1.55	1.6	1.55
24			2.3	1.5	1.4	1.4	1.9	1.75	1.95	1.55	1.6	1.55
25			1.45	1.3	1.45	1.5	1.85	1.85	1.8	1.6	1.5	1.5
26			1.6	1.35	1.45	1.5	1.9	1.95	1.75	1.5	1.5	1.5
27			1.6	1.5	1.5	1.5	1.9	1.9	3.3	1.45	1.55	1.5
28			1.35	1.65	2.1	1.45	1.9	1.75	4.7	1.5	1.5	1.5
29			1.5	1.65		1.65	1.9	1.8	4.1	1.5	1.5	1.55
30			1.5	2.1		2.1	1.9	1.8	2.8	1.5	1.45	1.55
31			1.45	1.75		2.1		1.6		1.5	1.45	

NOTE:—Discharge relation affected by ice about Dec. 22, 1913 to Mar. 31, 1914.

*Daily discharge, in second-feet, of La Crosse River near West Salem,  
for the year ending Sept. 30, 1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1							416	348	260	551	239	326
2							394	326	222	551	239	348
3							348	281	239	506	239	281
4							304	281	260	461	239	239
5							239	304	416	416	239	204
6							260	239	438	348	204	204
7							281	260	461	326	204	204
8							281	204	638	326	222	222
9							260	222	889	348	204	222
10							239	204	595	281	222	204
11							239	239	416	281	239	239
12							239	239	348	678	222	204
13							260	239	304	678	239	260
14							239	204	326	551	204	416
15							239	239	371	326	192	461
16							239	204	326	281	239	438
17							239	204	326	304	222	371
18							260	204	304	281	304	371
19							239	192	281	260	326	326
20							304	180	281	260	326	239
21							281	260	595	281	239	239
22							281	326	678	260	239	304
23							239	348	638	260	281	260
24							416	348	438	260	281	260
25							394	394	371	281	239	239
26							416	438	348	239	239	239
27							416	416	916	222	260	239
28							416	348	1390	239	239	239
29							416	371	1150	239	239	260
30							416	371	779	239	222	260
31							.....	281	.....	239	222	.....

NOTE:—Daily discharge computed from a rating curve well defined between 204 and 1,310 second-feet (gage heights, 1.4 and 4.5 feet).

Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, as follows: Dec. 22-31, 1913, 198 second-feet; Jan. 1-15 178 second-feet; Jan. 16-31, 214 second-feet; Feb. 1-15, 200 second-feet; Feb. 16-28, 193 second-feet; Mar. 1-15, 258 second-feet; and Mar. 16-31, 262 second-feet.

*Monthly discharge of La Crosse River near West Salem, Wis., for the year  
ending Sept. 30, 1914.*

[Drainage area, 412 square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
December (22-31)			198	0.481	0.18	C
January			197	.478	.55	C
February			197	.478	.50	C
March			260	.631	.73	D
April	416	239	307	.745	.83	B
May	438	180	281	.682	.79	B
June	1,390	222	500	1.21	1.35	B
July	678	222	348	.845	.97	B
August	326	192	241	.585	.67	B
September	461	204	277	.672	.75	B

## WISCONSIN RIVER BASIN

## WISCONSIN RIVER NEAR RHINELANDER, WIS.

**Location.**—In Sec. 27, T. 36 N., R. 8 E., at highway bridge just below Rhinelander Power Co's power station, 8 miles southwest of Rhinelander, Wis., 8 miles below the mouth of the Pelican River.

**Records available.**—December 1, 1905, to September 30, 1914. Also published in U. S. Geol. Survey Water-Supply Papers 207, 245, 265, 285, 305, and 325.

**Drainage area.**—1,110 square miles.

**Gage.**—Standard chain gage, fastened to upstream side of bridge; read once daily, October 1, 1913, to April 15, 1914, to nearest tenth, and twice daily, morning and evening, to nearest tenth from April 16 to September 30, 1914; limits of use: half tenths below 3.5 and tenths above 3.5 feet. Gage heights November 27 to December 31, 1910, as published in Water-Supply Paper 285; for 1911, as published in Water-Supply Paper 305; and from January 1 to September 18, 1912, as published in Water-Supply Paper 325, should be corrected by subtracting 0.13 foot; all gage heights September 19 to 30, 1912, as published in Water-Supply Paper 325, should be corrected by adding 0.12 foot.

**Discharge measurements.**—Made from downstream side of bridge to which gage is attached.

**Winter flow.**—Little ice forms in the vicinity of the gage, owing to the relatively high temperature of the water coming from the service reservoirs.

**Regulation.**—Flow of river controlled by the Rhinelander Power Co's plant near Rhinelander and the plant at Otter Rapids; modified also by storage reservoirs in the headwaters operated by the Upper Wisconsin Valley Improvement Co.

**Accuracy.**—Records only fair, owing to the operation of the power plants and to the presence of grass in the stream which may cause backwater at times.

*Discharge measurements of Wisconsin River near Rhinelander, Wis., during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
Dec. 11.....	Hoyt and Gross.....	2.18	554
Feb. 14.....	O. A. Steller.....	2.74	1,010
Mar. 19.....	H. C. Beckman.....	2.00	554
May 2.....	H. C. Beckman.....	4.26	2,680
Aug. 12.....	M. F. Rather.....	3.38	1,080
Aug. 12.....	M. F. Rather.....	3.45	1,180

**NOTE:**—Grass in channel when measurements were made.

Daily gage height, in feet, of Wisconsin River near Rhinelander, Wis., for the year ending Sept. 30, 1914.  
[Geo. N. Kramer, observer]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1.....	3.9	3.6	3.4	2.8	2.0	2.4	3.3	3.5	2.8	4.1	3.9	4.6
2.....	3.9	2.9	3.2	-----	3.3	3.0	3.0	3.5	2.7	4.6	4.0	4.5
3.....	3.5	3.4	3.0	3.0	2.9	3.3	3.0	3.0	2.65	4.4	4.1	4.5
4.....	3.4	3.5	3.5	2.0	3.5	3.0	3.2	3.45	2.95	4.4	3.8	4.5
5.....	2.6	3.4	3.3	3.2	3.4	2.7	2.0	3.35	3.0	4.3	3.8	4.4
6.....	3.5	3.3	3.1	3.4	3.1	2.7	3.3	3.4	3.1	4.4	3.6	3.8
7.....	3.5	3.7	2.5	3.4	2.9	2.9	3.3	3.45	2.75	4.2	3.6	3.4
8.....	3.4	3.7	2.9	2.7	2.2	1.9	3.0	3.3	2.65	4.0	3.5	3.8
9.....	3.7	2.4	2.9	2.9	2.7	3.0	2.9	3.15	2.85	4.1	3.2	3.8
10.....	3.9	3.7	2.7	3.5	2.6	3.0	2.8	2.6	2.9	3.8	3.45	3.8
11.....	3.7	3.5	3.1	2.2	2.6	3.3	2.8	3.3	2.8	3.9	3.35	3.8
12.....	2.6	3.3	3.0	2.8	2.4	2.7	2.8	3.35	2.7	3.7	3.05	3.7
13.....	3.3	3.6	2.9	3.0	2.6	2.7	2.8	3.1	2.5	4.0	3.1	3.5
14.....	3.7	3.4	2.5	2.7	2.75	2.8	2.9	2.7	1.85	3.9	3.3	3.7
15.....	3.7	3.4	3.2	2.9	2.2	2.0	2.8	2.75	2.55	3.8	3.5	3.5
16.....	3.9	2.4	3.5	2.9	2.8	2.7	2.75	2.9	2.65	3.9	3.7	3.6
17.....	3.4	3.7	2.9	2.7	2.8	2.8	2.85	2.2	2.8	3.8	3.8	3.4
18.....	3.4	3.3	3.1	2.5	2.6	2.8	2.8	2.85	2.85	3.7	4.0	3.45
19.....	3.0	3.5	3.0	2.4	2.5	2.7	2.8	2.9	2.8	3.7	4.2	3.6
20.....	3.4	3.5	3.4	2.6	2.9	2.8	2.85	2.6	2.55	3.8	4.6	3.5
21.....	3.2	3.3	2.5	2.5	2.8	2.7	3.0	2.75	1.95	3.7	4.8	3.6
22.....	3.5	3.7	3.1	2.5	2.2	1.9	2.95	2.75	2.9	3.8	4.6	3.45
23.....	3.7	2.8	3.1	2.7	2.9	2.6	2.95	2.6	2.9	4.0	4.9	3.6
24.....	2.9	3.6	2.8	2.6	2.8	2.8	3.1	2.2	3.0	4.0	4.6	3.45
25.....	2.9	3.3	2.2	1.7	3.1	2.7	3.15	3.4	3.05	3.7	4.9	3.4
26.....	2.6	3.5	2.2	3.3	3.3	2.7	2.8	2.8	3.4	3.9	4.6	3.5
27.....	3.4	3.1	2.4	3.0	3.9	2.7	3.0	2.9	3.9	4.0	4.9	3.2
28.....	3.3	2.9	2.6	3.5	2.9	2.6	3.5	2.8	3.8	4.0	4.8	3.2
29.....	3.7	3.3	3.5	3.3	-----	3.0	3.7	2.8	3.8	4.0	4.4	3.35
30.....	3.5	2.6	3.0	2.7	-----	3.3	3.5	2.9	4.4	4.2	4.9	3.45
31.....	3.7	-----	3.0	2.7	-----	3.0	-----	2.25	-----	4.0	4.8	-----

NOTE:—Discharge relation probably not materially affected by ice during the year ending Sept. 30, 1914.



Daily discharge, in second-feet, of Wisconsin River near Rhinelander, Wis.,  
for the years ending Sept. 30, 1906-1914

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1906												
1			775	1,320	870	1,090	1,090	1,780	1,440	2,580	1,090	1,440
2			690	1,320	870	775	1,320	1,660	1,550	1,440	980	690
3			566	1,040	1,320	1,260	1,320	1,660	1,090	2,470	1,440	1,320
4			690	1,200	980	1,260	1,260	2,360	1,440	2,010	1,490	1,200
5			1,320	1,040	1,090	690	1,320	2,360	1,550	452	106	1,660
6			1,440	1,040	1,200	1,200	1,090	2,700	2,010	1,440	1,440	870
7			1,380	870	1,440	1,090	1,320	1,780	2,820	1,660	1,200	775
8			1,440	1,320	1,200	690	1,660	1,900	2,360	775	1,320	1,090
9			1,550	1,090	1,200	980	1,440	2,010	2,820	980	1,320	223
10			1,320	980	822	1,090	1,550	1,780	2,940	1,090	1,090	452
11			1,320	1,200	870	870	2,360	1,900	1,900	1,320	775	775
12			1,550	1,090	452	870	2,820	2,010	2,010	1,490	980	980
13			1,440	980	1,090	1,320	2,470	1,660	1,900	775	1,200	870
14			1,550	775	980	1,260	2,700	1,550	1,780	1,090	1,200	690
15			1,320	980	870	1,320	2,820	870	1,550	870	1,200	1,090
16			1,380	980	925	980	2,240	1,440	1,550	1,150	1,090	384
17			1,150	1,200	980	1,040	2,940	1,550	1,090	1,090	1,090	690
18			1,200	980	980	775	2,580	1,660	690	1,090	980	775
19			1,440	1,090	690	980	3,070	1,660	1,320	1,150	270	775
20			1,440	1,040	690	1,090	3,200	1,440	1,440	1,090	980	775
21			980	1,090	732	1,090	2,940	1,550	1,550	606	980	980
22			1,260	1,040	775	980	3,330	1,440	1,900	384	1,200	870
23			1,660	1,040	690	775	2,470	1,440	1,660	526	1,320	270
24			1,200	1,200	1,550	980	2,360	1,320	775	1,200	2,010	606
25			1,320	1,090	980	1,200	2,010	1,260	1,440	1,320	1,440	690
26			980	1,090	1,200	1,320	1,900	1,550	1,550	1,440	775	732
27			1,200	1,040	1,200	1,260	1,900	270	2,120	1,200	1,090	690
28			980	870	1,320	1,090	1,780	1,440	1,440	1,320	1,550	690
29			870	1,200		775	2,360	1,380	2,120	384	1,610	870
30			1,090	1,320		606	2,010	2,010	2,120	1,200	1,320	870
31			870	980		980		2,120		870	1,200	
1906-7												
1	690	1,150	1,320	870	1,090	775	3,070	1,550	2,360	1,320	1,090	106
2	775	1,320	822	775	606	690	2,820	2,470	2,580	1,440	606	1,090
3	775	1,200	1,200	690	775	690	3,460	1,780	1,900	1,440	452	526
4	775	384	1,320	690	775	775	2,940	1,660	1,200	1,320	0	526
5	1,090	1,090	980	732	1,090	775	2,470	2,010	2,120	1,200	452	526
6	1,090	1,320	526	690	690	606	2,940	1,660	1,440	1,440	870	526
7	270	1,090	1,200	526	775	775	2,820	2,470	1,900	1,660	452	526
8	1,200	1,090	822	1,040	775	690	2,010	1,660	1,440	1,200	452	106
9	1,320	980	1,090	1,040	870	690	2,010	1,900	2,240	1,900	452	384
10	1,320	690	870	980	690	690	1,780	2,010	1,320	1,440	606	324
11	1,090	384	1,090	1,090	775	775	2,240	1,900	1,320	1,320	106	870
12	1,200	606	870	980	1,200	690	2,240	2,470	1,200	1,440	690	384
13	1,200	1,090	1,040	775	1,440	690	2,120	2,360	1,320	2,120	980	870
14	526	606	980	1,200	775	452	2,580	2,700	1,320	1,660	452	870
15	775	775	980	690	1,780	690	1,780	2,580	1,320	775	452	0
16	1,090	648	775	606	1,200	690	1,440	1,900	324	870	526	870
17	1,380	690	870	980	775	775	1,660	2,700	870	1,200	452	1,090
18	1,200	223	526	980	1,440	1,200	1,440	2,940	690	1,200	106	1,550
19	1,200	606	1,090	1,200	1,440	690	1,660	3,200	870	1,320	1,320	1,660
20	1,320	980	690	1,090	980	690	1,440	2,700	870	1,200	1,090	2,010
21	1,090	526	870	606	690	690	1,660	2,360	980	324	1,090	2,120
22	775	452	870	606	775	1,090	1,780	2,940	1,320	1,200	980	2,240
23	1,200	384	690	775	775	1,200	1,440	2,580	106	1,320	870	2,120
24	1,090	452	690	1,090	775	980	1,780	2,240	1,320	1,200	526	2,240
25	1,200	77	1,090	980	1,440	1,660	1,320	2,580	606	1,200	106	1,660
26	1,320	606	775	606	690	1,660	1,660	2,580	1,320	1,200	1,090	1,440
27	1,320	980	526	775	690	1,900	1,780	1,200	1,440	1,550	1,090	1,440
28	1,320	1,200	980	980	1,200	2,120	2,010	2,120	1,440	140	384	1,660
29	1,320	1,440	980	1,200		2,700	1,900	1,780	1,440	870	526	140
30	1,320	1,320	452	1,200		2,120	1,780	2,120	324	980	1,090	1,550
31	1,200		870	526		2,940		1,900		870	452	

Daily discharge, in second-feet, of Wisconsin River near Rhinelander, Wis., for the years ending Sept. 30, 1906-1914—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1907-8												
1-----	775	452	140	870	690	1 090	1 200	2 580	1 440	870	1 550	870
2-----	980	980	452	980	270	775	1 320	3 590	1 550	775	1 090	870
3-----	606	106	452	870	1 550	775	1 200	2,940	1,550	690	1,780	690
4-----	1,320	690	452	1,200	606	775	775	1,900	1,200	106	1,090	526
5-----	1,090	980	452	775	690	690	223	2,240	1,200	0	1,090	690
6-----	179	980	526	606	775	775	775	2,120	1,440	1,090	870	223
7-----	980	452	526	980	690	690	1,200	1,900	1,550	1,320	980	526
8-----	980	452	179	870	690	384	1,200	1,780	1,660	1,550	870	870
9-----	526	452	452	775	980	690	1,200	1,780	1,320	1,200	179	870
10-----	980	106	452	980	980	980	1,320	1,780	1,660	870	1,090	690
11-----	775	870	452	1,090	775	1,090	2,470	1,660	1,900	324	775	606
12-----	775	775	526	384	980	1,090	980	1,780	1,780	324	980	526
13-----	77	870	452	980	1,200	775	1,550	1,550	1,660	690	870	179
14-----	690	452	452	526	1,200	775	1,550	1,900	1,550	690	452	526
15-----	980	452	179	526	980	606	1,780	1,660	1,550	384	980	690
16-----	870	384	870	526	775	870	1,780	1,440	1,660	606	223	526
17-----	384	106	452	526	606	870	1,780	324	1,780	606	775	526
18-----	775	526	870	526	1,440	775	1,550	1,780	1,440	775	980	452
19-----	606	452	452	179	526	870	2,360	1,780	1,440	270	690	606
20-----	106	690	870	980	870	775	1,900	1,550	1,440	1,550	690	223
21-----	775	775	870	526	870	870	1,780	1,320	0	2,010	1,090	980
22-----	870	452	526	606	1,090	690	1,780	1,660	1,660	1,550	606	526
23-----	526	77	1,320	526	690	980	1,780	1,200	1,320	2,240	179	526
24-----	452	870	870	690	1,200	870	1,900	980	1,320	1,660	1,090	526
25-----	870	452	179	606	606	870	1,900	1,660	1,550	1,660	980	526
26-----	870	870	690	270	606	870	1,320	1,660	1,200	452	1,090	606
27-----	106	690	690	452	690	870	2,120	2,120	1,440	1,660	1,090	223
28-----	606	690	870	606	606	1,320	3,330	1,440	179	1,090	690	1,900
29-----	526	690	690	606	690	526	2,120	1,780	1,320	452	870	1,200
30-----	452	384	870	690	-----	1,200	2,360	1,660	980	1,200	179	1,440
31-----	452	-----	690	690	-----	775	-----	1,440	-----	1,320	1,090	-----
1908-9												
1-----	1,440	15	526	606	690	690	-----	2,010	1,440	1,090	2,010	1,660
2-----	1,320	526	384	690	1,090	606	-----	1,900	1,660	1,090	2,120	870
3-----	1,660	526	452	690	606	775	-----	1,780	980	980	2,120	606
4-----	223	526	526	690	1,090	606	-----	1,550	1,660	179	1,660	2,010
5-----	980	452	452	1,200	690	606	-----	1,440	1,660	179	2,010	870
6-----	775	452	140	775	606	606	-----	1,780	690	179	1,780	15
7-----	870	526	606	775	775	606	-----	1,780	1,780	526	1,660	1,660
8-----	606	140	606	1,440	690	690	606	1,780	2,010	1,090	606	1,550
9-----	870	384	526	870	775	690	980	775	1,660	606	1,660	1,200
10-----	606	452	606	1,090	775	606	606	2,240	1,900	606	2,010	870
11-----	270	452	526	775	775	690	270	2,360	2,010	270	2,010	1,090
12-----	526	452	980	1,320	775	606	1,090	2,470	1,900	1,440	2,010	179
13-----	606	452	179	775	1,200	1,200	980	2,470	690	2,000	2,010	980
14-----	526	452	1,090	606	775	690	526	2,470	1,660	775	2,010	980
15-----	526	179	1,090	870	775	1,200	1,090	2,580	1,550	870	270	980
16-----	526	223	606	775	1,440	606	1,090	1,320	1,550	690	2,010	1,440
17-----	526	324	1,090	980	775	606	690	2,580	1,320	1,440	1,900	1,550
18-----	223	270	1,090	1,090	690	690	980	2,470	1,550	179	2,010	1,550
19-----	526	223	1,090	870	690	606	1,090	2,470	1,550	1,660	1,900	179
20-----	270	324	775	690	775	606	1,200	2,360	324	1,440	1,900	1,550
21-----	270	270	1,200	980	775	324	1,780	2,240	1,090	1,660	1,900	1,440
22-----	270	179	980	1,440	775	690	1,320	2,120	980	2,240	270	1,550
23-----	324	270	690	870	775	606	1,200	690	980	2,010	2,010	1,440
24-----	270	980	870	870	775	606	1,550	1,900	980	2,010	1,320	1,440
25-----	106	980	690	690	526	526	452	1,780	1,090	1,090	1,550	980
26-----	324	526	870	690	606	606	1,550	1,900	980	2,240	1,550	223
27-----	522	980	775	690	690	690	1,550	1,440	140	2,240	1,780	980
28-----	384	606	1,320	690	690	140	1,550	1,660	775	2,360	2,470	980
29-----	384	15	606	775	-----	606	2,580	1,550	384	2,120	15	980
30-----	384	606	1,090	775	-----	606	1,900	324	452	2,120	870	980
31-----	384	-----	775	1,090	-----	606	-----	1,440	-----	2,010	1,550	-----

NOTE.—Mean discharge, Apr. 1-7, estimated at 600 second-feet.

Daily discharge, in second-feet, of Wisconsin River near Rhinelander, Wis.,  
for the years ending Sept. 30, 1906-1914—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1909-10</b>												
1	535	1,520	1,300	1,100	1,100	1,200	1,400	913	750	604	675	469
2	1,000	1,400	1,300	1,100	1,100	1,300	1,630	1,400	604	604	604	1,000
3	188	1,520	1,520	1,400	1,400	1,860	469	1,200	750	38	535	750
4	535	1,520	1,520	829	1,400	1,200	1,100	1,300	750	18	535	66
5	535	1,740	1,200	1,520	1,520	1,860	1,630	1,300	291	604	535	347
6	291	1,520	913	1,300	604	535	1,740	1,400	1,000	604	535	750
7	913	1,300	675	829	1,520	1,300	1,630	1,200	675	1,200	66	604
8	913	1,300	675	1,630	1,000	1,000	1,630	406	1,100	675	535	750
9	1,000	1,300	675	1,100	913	750	1,300	1,200	829	604	535	750
10	238	1,100	913	1,100	1,400	675	469	604	675	38	750	750
11	1,000	1,300	1,000	1,300	1,100	829	1,200	913	675	675	604	291
12	1,000	1,300	1,100	1,300	1,400	1,100	1,300	604	18	675	535	750
13	750	1,520	1,000	1,400	1,100	469	1,100	604	750	604	675	750
14	913	1,400	1,000	1,300	1,000	1,100	829	604	829	604	469	829
15	750	2,220	913	1,400	1,200	829	1,100	238	604	675	604	913
16	829	1,860	1,000	1,100	1,740	1,100	1,200	750	604	750	675	829
17	142	1,520	913	1,000	1,000	1,000	604	913	604	18	604	829
18	1,000	1,740	1,100	1,400	1,520	1,100	1,300	604	604	675	604	38
19	913	1,700	829	1,100	1,630	1,000	1,300	913	18	675	469	675
20	1,300	1,860	1,000	1,300	535	347	913	1,100	604	535	406	750
21	1,000	1,630	1,000	1,300	1,740	1,000	1,300	1,200	604	675	38	604
22	1,200	1,740	1,200	1,100	1,630	1,200	1,100	675	604	675	469	469
23	1,000	1,630	1,000	1,200	1,200	1,300	1,000	1,300	535	469	469	469
24	1,000	1,100	1,200	1,000	1,630	1,520	535	1,200	604	291	535	469
25	829	1,400	1,000	913	1,740	1,520	913	1,300	604	469	535	38
26	829	913	1,000	1,100	1,740	1,520	1,300	1,400	18	469	604	535
27	1,000	1,980	1,200	913	1,100	604	1,300	1,300	535	750	604	535
28	1,000	1,520	1,300	829	1,740	1,740	1,400	1,200	535	535	291	604
29	1,000	1,630	1,100	829	-----	1,520	1,630	535	535	675	469	604
30	913	1,400	1,000	1,100	-----	1,200	1,520	1,200	604	535	469	604
31	291	-----	1,200	1,100	-----	1,300	-----	1,100	-----	291	469	-----
<b>1910-11</b>												
1	604	675	469	535	829	675	1,400	675	1,100	535	1,630	1,520
2	291	750	406	829	604	675	1,200	604	1,300	347	2,100	1,300
3	535	604	188	750	535	604	1,300	1,000	1,100	406	1,980	535
4	469	604	188	675	469	604	1,000	675	347	291	1,980	675
5	469	535	291	675	406	238	1,000	750	913	913	1,980	1,860
6	1,100	291	535	829	406	675	1,000	675	913	1,300	675	1,980
7	604	675	750	675	347	675	1,000	188	1,000	1,520	1,980	1,630
8	675	675	604	347	1,300	829	1,000	469	1,100	1,200	1,980	1,520
9	238	604	469	750	1,300	750	347	535	913	238	1,860	1,630
10	604	675	535	750	750	1,740	1,300	469	1,000	1,200	2,100	469
11	604	675	535	604	913	1,100	1,200	675	291	1,300	1,980	1,520
12	604	675	469	829	406	347	1,200	604	750	1,200	1,860	1,740
13	535	347	535	750	535	750	1,300	604	675	1,100	347	1,740
14	406	604	535	750	675	829	1,200	469	604	1,100	2,100	1,860
15	406	675	535	535	750	1,100	1,200	1,000	604	1,000	1,630	1,520
16	238	675	750	750	750	750	347	829	675	291	1,630	1,630
17	535	675	675	829	829	750	1,200	829	535	1,400	1,980	406
18	535	604	535	675	913	1,000	1,200	750	291	1,520	1,740	1,740
19	535	604	469	829	469	291	1,630	1,100	675	913	1,740	1,630
20	604	238	604	1,100	750	1,000	1,200	1,740	604	1,400	469	1,630
21	604	535	535	1,300	1,000	1,100	1,300	604	675	1,100	2,220	1,630
22	604	535	469	406	913	1,000	1,630	1,980	604	1,200	2,100	1,520
23	291	535	535	913	1,000	1,100	750	1,860	535	291	2,100	1,520
24	535	604	347	829	1,300	1,200	1,200	1,740	675	2,820	1,860	469
25	535	604	291	1,300	1,300	1,200	1,200	2,220	291	1,860	2,220	1,400
26	535	535	535	1,100	913	347	1,100	2,220	675	1,630	2,220	1,520
27	913	291	829	1,000	1,000	1,520	1,400	829	604	1,300	675	1,630
28	750	675	913	913	1,000	1,630	1,300	604	750	1,400	1,860	1,630
29	913	469	675	829	-----	1,400	829	1,000	750	1,520	1,860	1,740
30	347	535	604	1,100	-----	1,520	406	1,100	535	188	1,980	1,630
31	675	-----	829	829	-----	1,400	-----	1,000	-----	2,220	1,980	-----

*Daily discharge, in second-feet, of Wisconsin River near Rhinelander, Wis., for the years ending Sept. 30, 1906-1914—(Continued.)*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1911-12</b>												
1.....	1,520	1,860	675	1,630	1,300	1,520	1,100	1,630	2,220	1,400	1,630	1,300
2.....	1,740	1,740	604	1,740	1,100	1,630	1,520	1,630	1,860	1,300	1,740	3,070
3.....	1,740	1,740	750	1,400	1,300	913	1,520	1,300	1,630	1,300	1,860	3,980
4.....	1,630	1,100	675	1,520	1,200	1,740	1,740	1,860	1,300	604	1,200	3,720
5.....	1,630	918	829	1,520	2,220	1,300	2,220	1,630	1,980	1,400	1,740	4,110
6.....	2,220	1,400	604	1,400	2,100	1,300	2,580	1,740	1,740	1,630	1,980	4,370
7.....	2,940	1,300	829	1,000	2,220	1,520	2,820	1,630	1,630	347	2,460	3,850
8.....	3,460	1,200	750	1,520	2,220	1,520	2,340	1,520	1,520	1,400	3,070	3,070
9.....	3,850	1,200	829	1,740	2,220	1,400	2,700	1,630	1,200	1,520	3,850	3,590
10.....	3,590	1,100	1,200	1,980	2,460	675	2,700	1,860	1,300	1,630	4,370	3,330
11.....	3,330	1,200	1,400	2,100	2,100	1,000	2,700	1,980	1,400	1,300	4,890	3,070
12.....	3,330	1,000	1,860	1,980	2,100	1,200	2,820	1,200	1,520	1,400	4,370	3,070
13.....	2,940	1,100	1,630	1,980	2,100	1,200	2,820	1,300	1,630	1,300	4,370	3,070
14.....	2,940	829	1,630	1,400	2,100	1,200	1,740	1,740	1,000	238	4,110	3,070
15.....	1,980	750	1,630	1,980	2,100	1,200	2,700	1,630	1,100	1,400	3,850	1,200
16.....	2,940	750	1,860	1,860	1,860	1,200	2,700	1,200	535	1,630	3,980	2,100
17.....	2,820	750	1,400	1,980	1,740	347	2,580	1,740	1,200	1,520	3,720	1,860
18.....	2,940	750	1,630	1,980	1,400	1,400	2,580	1,630	1,200	1,200	1,200	1,860
19.....	2,220	913	1,860	2,100	1,860	1,200	2,220	1,100	1,630	1,300	3,460	1,630
20.....	1,980	675	1,630	1,980	2,220	1,200	1,860	1,520	1,100	1,630	3,070	1,520
21.....	3,330	750	1,520	913	2,100	1,000	1,980	1,630	1,200	347	3,200	1,740
22.....	3,850	829	1,520	1,860	1,860	913	2,100	1,300	1,400	1,200	3,070	1,300
23.....	3,200	675	1,630	1,860	2,100	1,000	1,860	1,630	291	1,200	2,940	1,400
24.....	3,070	750	1,860	1,740	2,220	291	1,740	1,740	1,300	1,300	2,820	1,520
25.....	2,700	913	2,100	1,400	2,100	1,300	1,740	1,860	1,630	1,630	1,400	1,860
26.....	2,940	1,100	1,860	1,400	2,100	1,000	1,630	1,740	1,300	1,630	2,580	1,860
27.....	3,330	750	1,300	1,400	2,220	1,000	1,520	1,630	1,200	1,860	2,820	1,520
28.....	2,940	1,000	1,520	1,200	1,980	2,100	1,630	1,630	1,200	1,200	3,070	1,520
29.....	2,700	829	1,630	1,520	1,520	1,630	2,820	1,860	1,100	1,980	2,820	1,200
30.....	2,580	675	1,630	1,300	-----	829	2,580	2,100	406	1,630	2,700	1,740
31.....	1,520	-----	1,520	1,400	-----	406	-----	1,980	-----	1,630	2,820	-----
<b>1912-13</b>												
1.....	1,740	1,630	535	1,000	750	1,000	1,520	2,220	1,740	675	1,630	1,300
2.....	1,860	1,860	2,100	913	535	535	1,200	1,860	2,100	913	1,100	1,000
3.....	1,400	1,100	1,860	829	675	1,100	2,340	1,860	2,100	675	1,740	1,400
4.....	1,630	1,860	1,630	829	675	1,200	1,860	1,000	1,860	406	1,000	1,630
5.....	2,100	2,340	1,860	829	750	913	2,340	1,630	2,100	829	913	1,300
6.....	829	2,100	2,100	913	750	1,100	2,340	1,200	1,860	347	829	1,000
7.....	1,520	1,860	1,860	750	675	1,200	2,220	1,300	1,860	675	1,300	535
8.....	1,980	1,980	829	675	675	913	2,220	913	829	1,000	1,630	1,300
9.....	2,100	1,860	1,740	750	469	1,200	1,980	1,200	2,220	829	1,100	913
10.....	1,630	1,400	2,100	829	913	1,100	2,460	1,360	1,980	1,200	291	1,400
11.....	1,520	1,740	1,520	829	750	1,100	2,220	535	1,740	913	675	1,000
12.....	1,980	1,980	1,630	535	675	1,000	1,980	1,200	1,980	1,300	750	1,000
13.....	604	1,860	1,860	913	675	1,000	604	1,800	1,520	406	1,100	1,300
14.....	1,740	1,740	1,860	675	604	829	2,220	1,000	1,630	1,860	1,000	347
15.....	2,100	1,740	675	750	913	1,300	2,220	1,300	675	2,220	1,200	1,000
16.....	1,630	1,630	1,860	750	291	1,200	2,460	1,300	675	1,980	829	913
17.....	1,740	1,200	1,630	750	829	913	2,220	1,000	829	1,630	142	913
18.....	1,520	1,860	1,740	750	675	1,000	1,980	675	913	1,860	1,200	913
19.....	1,980	1,860	1,520	535	675	1,300	2,340	1,980	675	2,100	1,200	750
20.....	1,200	1,980	1,630	829	1,200	1,200	2,220	2,340	913	469	829	1,000
21.....	1,860	1,740	1,400	535	604	913	2,220	2,220	829	1,100	1,000	604
22.....	1,860	1,980	1,100	535	675	1,400	1,980	1,980	406	913	1,000	1,520
23.....	1,630	1,740	1,300	675	913	1,300	2,460	1,740	675	829	1,200	1,740
24.....	1,740	1,100	1,100	675	750	1,300	2,220	1,860	829	1,300	188	1,520
25.....	1,980	1,860	1,300	750	1,000	1,000	2,460	1,980	829	1,100	1,200	1,860
26.....	1,740	1,740	1,000	535	1,100	1,000	1,860	1,980	913	1,860	1,200	1,860
27.....	1,000	1,860	1,300	675	675	1,300	1,980	2,100	829	1,520	1,400	1,400
28.....	1,740	1,630	1,300	750	829	1,100	2,220	2,100	675	2,700	1,000	829
29.....	1,980	1,630	1,100	675	-----	1,630	2,220	1,980	469	2,700	913	1,630
30.....	1,630	1,520	1,000	750	-----	1,520	2,100	2,100	1,100	2,700	1,300	1,630
31.....	1,980	-----	1,100	750	-----	1,520	-----	2,220	-----	1,980	291	-----

*Daily discharge, in second-feet, of Wisconsin River near Rhinelander, Wis., for the years ending Sept. 30, 1906-1914—(Concluded).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1913-14</b>												
1-----	2,220	1,860	1,640	1,060	469	747	1,530	1,750	1,060	2,220	1,580	2,480
2-----	2,220	1,150	1,430	1,150	1,530	1,240	1,240	1,750	985	2,880	1,700	2,350
3-----	1,750	1,640	1,240	1,240	1,150	1,530	1,240	1,240	945	2,610	1,800	2,350
4-----	1,640	1,750	1,750	469	1,750	1,240	1,430	1,700	1,200	2,480	1,480	2,350
5-----	905	1,640	1,530	1,430	1,640	985	469	1,580	1,240	2,350	1,480	2,220
6-----	1,750	1,530	1,330	1,640	1,330	985	1,530	1,640	1,330	2,480	1,280	1,530
7-----	1,750	1,980	825	1,640	1,150	1,150	1,530	1,700	1,020	2,220	1,280	1,150
8-----	1,640	1,980	1,150	985	602	406	1,240	1,530	945	1,980	1,200	1,530
9-----	1,980	747	1,150	1,150	985	1,240	1,150	1,380	1,110	2,100	945	1,530
10-----	2,220	1,980	985	1,750	905	1,240	1,060	905	1,150	1,750	1,150	1,530
11-----	1,980	1,750	1,330	602	905	1,530	1,060	1,530	1,060	1,860	1,060	1,530
12-----	905	1,530	1,240	1,060	747	985	1,060	1,580	985	1,640	825	1,430
13-----	1,530	1,860	1,150	1,240	905	985	1,060	1,330	825	1,860	865	1,240
14-----	1,980	1,640	825	985	1,020	1,060	1,150	985	380	1,750	1,020	1,430
15-----	1,980	1,640	1,430	1,150	602	469	1,060	1,020	865	1,640	1,200	1,240
16-----	2,220	747	1,750	1,150	1,060	985	1,020	1,150	865	1,750	1,380	1,330
17-----	1,640	1,980	1,150	985	1,060	1,060	1,110	602	985	1,640	1,480	1,150
18-----	1,640	1,530	1,330	825	905	1,060	1,060	1,110	1,020	1,530	1,700	1,200
19-----	1,240	1,750	1,240	747	825	985	1,060	1,150	985	1,530	1,920	1,330
20-----	1,640	1,750	1,640	905	1,150	1,060	1,110	905	786	1,640	2,420	1,240
21-----	1,430	1,530	825	825	1,060	985	1,240	1,020	380	1,530	2,680	1,330
22-----	1,750	1,980	1,330	825	602	406	1,200	1,020	1,060	1,530	2,420	1,200
23-----	1,980	1,060	1,330	985	1,150	905	1,200	905	1,060	1,750	2,810	1,330
24-----	1,150	1,860	1,060	905	1,060	1,060	1,330	602	1,150	1,750	2,420	1,200
25-----	1,150	1,530	602	310	1,330	985	1,380	1,640	1,110	1,430	2,810	1,150
26-----	905	1,750	602	1,530	1,530	985	1,060	1,060	1,430	1,640	2,420	1,240
27-----	1,640	1,330	747	1,240	2,220	985	1,240	1,150	1,980	1,750	2,810	985
28-----	1,530	1,150	905	1,750	1,150	905	1,750	1,060	1,860	1,750	2,680	985
29-----	1,980	1,530	1,750	1,530	-----	1,240	1,980	1,060	1,860	1,750	2,160	1,110
30-----	1,750	905	1,240	985	-----	1,530	1,750	1,150	2,610	1,980	2,810	1,200
31-----	1,980	-----	1,240	985	-----	1,240	-----	638	-----	1,750	2,680	-----

NOTE.—Daily discharge table for 1908 differs from that published in U. S. Geol. Survey Water-Supply Paper 245, in the use here of three significant figures. Discharge computed from rating curves well defined between 775 and 3,070 second-feet. See "Accuracy" in station description.

*Monthly discharge of Wisconsin River near Rhinelander, Wis., for the years ending Sept. 30, 1906-1914.*

[Drainage area, 1,110 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1905-6						
December.....	1,660	566	1,210	-----	-----	B
January.....	1,320	775	1,080	-----	-----	B
February.....	1,550	452	999	-----	-----	B
March.....	1,320	606	1,020	-----	-----	B
April.....	3,330	1,090	2,120	-----	-----	B
May.....	2,700	270	1,660	-----	-----	B
June.....	2,940	690	1,730	-----	-----	B
July.....	2,580	384	1,180	-----	-----	B
August.....	2,010	106	1,150	-----	-----	B
September.....	1,660	223	826	-----	-----	B
1906-7						
October.....	1,380	270	1,040	-----	-----	B
November.....	1,440	77	812	-----	-----	B
December.....	1,320	452	899	-----	-----	B
January.....	1,200	526	870	-----	-----	B
February.....	1,780	606	963	-----	-----	B
March.....	2,940	452	1,080	-----	-----	B
April.....	3,460	1,320	2,070	-----	-----	B
May.....	3,200	1,200	2,230	-----	-----	B
June.....	2,580	106	1,300	-----	-----	B
July.....	2,120	775	1,240	-----	-----	B
August.....	1,320	0	639	-----	-----	C
September.....	2,240	0	1,050	-----	-----	B
The year.....	3,200	0	1,180	-----	-----	-----
1907-8						
October.....	1,320	77	676	-----	-----	C
November.....	980	77	573	-----	-----	C
December.....	1,320	140	578	-----	-----	C
January.....	1,200	179	691	-----	-----	C
February.....	1,550	270	839	-----	-----	B
March.....	1,320	384	837	-----	-----	B
April.....	3,330	223	1,620	-----	-----	B
May.....	3,590	324	1,770	-----	-----	B
June.....	1,900	0	1,390	-----	-----	B
July.....	2,240	0	968	-----	-----	B
August.....	1,780	179	870	-----	-----	B
September.....	1,900	179	671	-----	-----	C
The year.....	3,590	0	957	-----	-----	-----
1908-9						
October.....	1,660	106	564	-----	-----	C
November.....	980	15	425	-----	-----	C
December.....	1,320	140	749	-----	-----	B
January.....	1,440	606	875	-----	-----	B
February.....	1,440	526	788	-----	-----	B
March.....	1,200	140	645	-----	-----	C
April.....	2,580	270	1,030	-----	-----	B
May.....	2,580	324	1,860	-----	-----	B
June.....	2,010	140	1,250	-----	-----	B
July.....	2,360	179	1,240	-----	-----	B
August.....	2,470	15	1,640	-----	-----	B
September.....	2,010	15	1,090	-----	-----	B
The year.....	2,580	15	1,020	-----	-----	-----



Monthly discharge of Wisconsin River near Rhinelander, Wis., for the years ending Sept 30, 1906-1914—(Continued).

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1909-10						
October.....	1,300	142	800			B
November.....	2,220	913	1,520			B
December.....	1,520	675	1,060			C
January.....	1,630	829	1,160			C
February.....	1,740	535	1,310			C
March.....	1,860	347	1,130			B
April.....	1,740	469	1,190			B
May.....	1,400	238	986			B
June.....	1,100	18	597			B
July.....	1,200	18	539			B
August.....	750	38	513			B
September.....	1,000	38	594			B
The year.....	2,220	18	947			
1910-11						
October.....	1,100	238	558			B
November.....	750	238	573			B
December.....	913	188	537			C
January.....	1,300	347	806			C
February.....	1,300	347	799			C
March.....	1,740	238	929			B
April.....	1,630	347	1,110			B
May.....	2,220	188	961			B
June.....	1,300	291	716			B
July.....	2,820	188	1,120			B
August.....	2,220	347	1,770			B
September.....	1,980	406	1,440			B
The year.....	2,820	188	944			
1911-12						
October.....	3,850	1,520	2,710			B
November.....	1,860	675	1,020			B
December.....	2,100	604	1,370			C
January.....						
February.....						
March.....						
April.....	2,820	1,100	2,190			B
May.....	2,100	1,100	1,630			B
June.....	2,220	291	1,320			B
July.....	1,980	238	1,320			B
August.....	4,890	1,200	2,940			B
September.....	4,370	1,200	2,420			B
1912-13						
October.....	2,100	604	1,680			B
November.....	2,340	1,100	1,750			B
December.....	2,100	535	1,470			C
January.....	1,000	535	740			C
February.....	1,200	469	739			C
March.....	1,630	535	1,130			C
April.....	2,460	604	2,090			B
May.....	2,340	535	1,590			C
June.....	2,220	406	1,260			C
July.....	2,700	347	1,320			B
August.....	1,740	142	1,000			B
September.....	1,860	347	1,180			B
The year.....	2,460	142	1,330			

*Monthly discharge of Wisconsin River near Rhinelander, Wis., for the years ending Sept. 30, 1906-1914—(Concluded).*

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1913-14						
October.....	2,220	905	1,680			B
November.....	1,980	747	1,570			B
December.....	1,750	602	1,220			B
January.....	1,750	310	1,100			B
February.....	2,220	469	1,100			B
March.....	1,530	406	1,040			B
April.....	1,980	469	1,240			B
May.....	1,750	602	1,220			B
June.....	2,610	380	1,140			C
July.....	2,880	1,430	1,890			C
August.....	2,810	825	1,820			B
September.....	2,480	985	1,460			C
The year.....	2,880	310	1,380			

NOTE.—See "Accuracy" in station description.

### WISCONSIN RIVER AT MERRILL, WIS.

**Location.**—At highway bridge, east end of the city of Merrill, 1,000 feet below the power house and dam of the Merrill Electric Railway & Power Co., and half a mile below the mouth of Prairie River, coming in from the right.

**Records available.**—November 17, 1902, to September 30, 1914; published also in U. S. Geol. Survey Water-Supply Papers 83, 98, 128, 171, 207, 245, 265, 285, 305, and 325.

**Drainage area.**—2,630 square miles.

**Gage.**—November 17, 1902, to June 17, 1903, staff gage; June 17, 1903, to September 10, 1914, chain gage, attached to downstream side of the highway bridge; datum the same since June 17, 1903; records prior to this date doubtful; Stevens recording gage installed September 11, 1914. From January to July the chain gage was read twice daily; from August to December once daily, in the morning. Gage heights for January to December, 1912, as published in U. S. Geol. Survey Water-Supply Paper 325 should be corrected by subtracting .07 foot.

**Control.**—Heavy gravel and rock; probably permanent, except for possible scour in high water.

**Discharge measurements.**—Made from highway bridge to which the gage is attached.

**Winter flow.**—Little ice forms at gage section. Ice forms on the right bank of the river below the gage, extending at times nearly to the center of the channel and causing a small amount of backwater at the gage.

**Regulation.**—Upstream from the gage are the following power plants, in order:

Merrill; Merrill Electric Light & Railway Co.  
Tomahawk; Tomahawk Pulp & Paper Co.  
Tomahawk; Tomahawk Tannery Co.  
Kings; Tomahawk Power Co.  
Hat Rapids; Rhinelander Power Co.  
Rhinelander; Rhinelander Paper Co.  
Otter Rapids; Eagle River Electric Co.



All these plants control the flow somewhat by means of service reservoirs. The plant at Otter Rapids has a pondage with an area of 5 square miles. In addition to regulation by the plants named above, 17 reservoirs, having a capacity of over four billion cubic feet, are operated for storage in the Wisconsin basin above Merrill, by the Wisconsin Valley Improvement Co.

**Floods.**<sup>1</sup>—On July 24, 1912, at 5:00 a. m., the water reached a stage of approximately 17.5 feet, corresponding to a discharge of 45,000 second-feet. During the 24 hours previous, 11.25 inches of rain had fallen in the vicinity of Merrill. According to C. B. Stewart, consulting engineer, Madison, the run-off of the 700 square miles between Merrill and Tomahawk was at the rate of 65 cubic feet per square mile; if the estimate is extended to the entire drainage area above Merrill, the flow was 17 second-feet per square mile; little rain, however, had fallen in the basin above Tomahawk.

**Accuracy.**—Accuracy of records impaired by diurnal fluctuations caused by the operation of power plants, by backwater from ice during the winter, and possibly from logs in the spring on the control. During the last part of September, 1908, the water reached a stage considerably below that at which any measurements have been made; because of the large daily fluctuation during low stages and possible error in the extension of rating curve, estimates of discharges based on mean gage height for the day should be used with caution. See special footnotes to tables of daily and monthly discharge.

**Cooperation.**—Station maintained in cooperation with the United States Weather Bureau and the Wisconsin Valley Improvement Co.

<sup>1</sup> See Stewart, Clinton B., Investigation of flood flow on the Watershed Upper Mississippi River: Western Soc. Engineers Jour. vol. 23, No. 4, April, 1913.

*Discharge measurements of Wisconsin River at Merrill, Wis., during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
1913-14		Feet	Sec.-feet
December 9 (a).....	Hoyt and Gross .....	5.19	2,150
January 19 (b).....	H. C. Beckman.....	4.76	1,800
February 12 (c).....	O. A. Steller.....	4.96	1,990
March 20 (d).....	H. C. Beckman.....	4.70	1,590
April 22 (e).....	H. C. Beckman.....	7.10	6,170
April 23.....	H. C. Beckman.....	6.35	4,330
May 4 (f).....	H. C. Beckman.....	7.51	7,100
June 24.....	G. H. Canfield.....	6.04	3,850
September 12.....	G. H. Canfield.....	5.30	2,190

(a) Ice along right bank.

(b) About 50 per cent ice cover at bridge.

(c) About 15 per cent ice cover.

(d) Main channel clear of ice.

(e) Logs floating in river.

(f) Logs jammed in river parallel to thread of stream.

Daily gage height, in feet, of Wisconsin River at Merrill, Wis., for the year ending Sept. 30, 1914.

[O F. Lueck, observer]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1-----	5.9	5.6	5.8	4.7	5.1	4.8	6.2	8.6	5.7	7.8	5.4	6.7
2-----	6.1	5.7	5.7	4.9	5.2	5.0	6.2	7.6	5.3	7.6	5.3	6.0
3-----	6.3	5.5	5.3	5.4	5.0	4.8	6.0	7.6	5.2	7.1	5.6	5.8
4-----	5.2	5.4	5.7	5.4	5.2	4.6	6.0	7.4	6.8	7.2	5.4	6.2
5-----	5.7	5.6	5.7	5.2	4.8	4.9	5.6	7.1	6.9	6.8	5.2	5.8
6-----	6.2	5.3	5.8	4.8	5.0	4.8	5.9	7.0	7.4	6.5	5.2	6.0
7-----	5.8	6.0	5.4	5.0	5.4	4.8	5.8	6.5	7.6	6.3	5.5	5.1
8-----	5.9	6.4	4.3	5.0	4.9	4.7	5.5	7.0	7.0	6.0	5.2	5.3
9-----	6.0	5.4	5.0	5.3	4.6	4.0	5.4	6.4	6.7	5.8	5.2	5.2
10-----	5.3	5.0	5.0	5.2	5.0	4.2	5.4	6.8	6.4	5.5	5.0	5.2
11-----	5.4	5.1	4.8	5.0	4.9	4.8	5.4	6.2	6.3	5.8	5.2	5.8
12-----	5.8	4.9	4.8	4.9	5.0	4.7	5.4	6.4	6.5	5.8	5.2	5.4
13-----	5.8	5.0	5.2	5.2	4.9	4.8	4.9	6.0	5.6	5.7	5.2	5.9
14-----	5.7	5.4	5.1	4.8	5.0	4.8	5.4	5.8	5.5	5.8	5.4	6.0
15-----	5.6	5.1	4.4	4.9	5.2	4.8	5.8	5.3	5.3	5.6	5.3	5.3
16-----	5.3	4.9	4.3	5.0	4.9	5.0	5.7	5.4	5.0	5.8	5.2	5.5
17-----	5.2	4.5	4.9	5.0	4.8	5.0	5.9	5.6	5.1	5.6	5.1	5.4
18-----	5.6	5.4	4.6	5.0	4.8	5.1	6.9	4.8	5.2	5.4	5.2	5.7
19-----	5.8	5.4	4.8	4.6	4.6	4.9	6.1	5.4	5.4	4.35	5.8	5.6
20-----	5.3	5.1	4.8	4.8	5.0	4.9	7.0	5.2	5.4	5.3	5.8	5.8
21-----	5.0	4.9	4.6	4.8	5.0	4.6	7.0	5.7	5.5	5.8	5.8	5.5
22-----	4.6	5.7	4.2	4.8	4.9	4.4	6.8	6.7	5.3	5.2	6.0	5.7
23-----	4.3	5.6	4.6	5.2	3.8	3.6	6.6	6.4	5.4	5.4	6.6	5.6
24-----	4.9	5.0	4.4	4.8	4.8	4.6	6.8	6.6	5.6	5.5	7.1	5.6
25-----	5.2	5.0	4.3	4.6	4.8	-----	7.4	5.9	5.8	6.0	6.7	5.4
26-----	4.9	5.1	4.2	4.8	4.9	5.0	7.4	5.5	6.5	5.6	6.8	5.4
27-----	5.7	4.9	4.0	4.8	4.8	4.8	7.3	5.8	6.6	5.4	6.8	5.3
28-----	5.7	5.4	5.3	4.7	4.8	4.7	8.0	5.8	7.7	5.4	6.6	5.2
29-----	6.0	5.4	5.2	5.2	-----	5.1	8.8	5.7	7.7	5.2	6.2	5.1
30-----	6.1	5.6	5.2	4.9	-----	5.6	8.8	5.7	7.8	5.7	6.5	5.1
31-----	5.6	-----	4.3	5.2	-----	5.8	-----	5.6	-----	5.4	6.2	-----

NOTE:—Discharge relation affected by ice about Jan. 1, to Mar. 20, 1914.

*Daily discharge, in second-feet, of Wisconsin River at Merrill, Wis., for the years ending Sept. 30, 1904-1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1904</b>												
1				4,080	3,540	4,080	4,080	8,200	8,200	6,100	2,580	2,400
2				4,300	3,540	4,200	3,970	6,980	7,380	6,220	2,660	2,140
3				4,420	3,420	4,080	4,080	6,220	7,520	5,720	2,480	4,200
4				4,540	3,330	4,080	3,970	6,850	8,640	4,760	2,310	8,940
5				4,540	3,640	4,080	4,080	7,520	9,720	4,890	2,400	6,480
6				4,300	3,640	3,970	5,240	6,100	10,600	4,760	2,760	4,890
7				3,750	3,420	4,200	5,130	6,100	8,940	4,760	2,660	6,850
8				3,860	3,860	3,970	5,850	6,850	9,080	5,130	5,850	6,720
9				3,220	3,860	4,080	7,240	10,900	8,200	5,980	2,480	6,100
10				3,970	3,750	4,080	7,110	10,200	7,640	6,600	2,660	4,080
11				3,330	3,970	4,080	7,110	9,240	6,720	7,240	2,840	4,660
12				3,640	3,750	4,080	6,100	9,400	8,200	5,610	4,760	5,720
13				3,750	4,540	3,860	6,220	8,640	7,380	3,140	7,110	4,660
14				3,640	3,330	3,860	5,850	9,400	5,480	4,300	3,220	4,200
15				3,330	3,420	4,080	5,130	8,640	4,760	3,750	2,840	4,200
16				3,420	3,540	3,970	3,970	9,240	4,540	3,420	3,640	4,080
17				3,420	4,200	4,080	5,370	7,780	4,420	3,860	5,850	4,080
18				3,330	4,080	3,750	5,000	5,610	4,540	4,420	4,080	4,200
19				3,540	4,080	3,540	5,130	6,100	5,480	1,480	3,750	4,080
20				3,420	4,660	3,640	4,660	6,100	4,760	1,640	5,240	2,660
21				3,640	3,970	3,750	4,420	6,340	4,420	2,480	4,540	2,940
22				3,540	4,200	3,860	4,420	6,850	4,540	2,660	4,760	2,400
23				3,420	4,080	2,940	4,540	6,850	4,420	2,840	4,660	3,220
24				3,220	4,080	3,750	6,720	6,850	7,380	2,140	3,960	6,220
25				3,970	4,080	4,300	9,900	9,900	3,420	1,480	3,860	6,980
26				3,330	4,080	3,970	10,700	16,500	4,300	1,640	3,640	8,780
27				3,330	4,080	3,330	11,000	18,100	4,890	3,040	4,300	7,110
28				3,330	4,080	3,640	11,200	15,500	7,380	2,480	3,220	7,240
29				3,330	4,200	3,860	10,200	13,000	6,220	3,220	4,080	5,240
30				3,330		3,640	8,780	11,500	5,000	3,640	5,130	4,540
31				3,330		3,860		9,400		3,220	2,400	
<b>1904-5</b>												
1	4,660	5,980	2,060				12,000	2,460	3,600	7,360	2,300	4,210
2	4,890	5,720	2,660				11,600	3,410	3,410	7,090	2,960	4,420
3	5,980	4,890	2,060				13,000	4,420	3,800	7,630	2,780	4,320
4	3,960	4,080	2,060				12,000	4,210	3,040	7,910	2,780	5,560
5	5,240	3,750	1,890				11,600	4,530	7,910	9,070	3,900	5,560
6	4,080	3,640	2,230				11,600	4,860	17,200	9,680	4,210	4,530
7	3,420	3,330	1,970				11,600	4,980	15,800	8,190	5,920	4,000
8	5,980	2,580	2,580				9,680	6,820	12,300	8,480	4,000	4,530
9	8,780	1,800	2,310				11,000	5,560	12,300	9,070	4,530	4,210
10	16,500	1,560	2,310				8,480	4,980	10,300	6,820	4,860	4,640
11	17,500	1,410	1,720				7,360	6,180	10,600	5,920	4,100	4,320
12	16,600	1,890	1,490				6,820	6,820	10,300	6,430	3,500	4,640
13	13,000	4,080	1,970				7,360	6,050	8,480	4,420	4,000	5,440
14	10,600	4,300	2,400				6,300	7,360	8,480	4,640	4,320	4,860
15	8,200	1,640	2,660				6,050	7,910	7,910	5,800	3,800	4,100
16	7,110	1,480	2,840				6,820	7,910	9,370	5,090	4,100	4,860
17	6,480	1,560	2,660				7,360	8,480	17,200	4,640	3,800	5,320
18	6,480	1,560	2,660				6,300	8,480	18,000	5,200	4,860	4,980
19	6,600	1,890	2,480				4,980	7,630	18,000	2,300	4,530	6,050
20	4,890	2,400	2,400				4,980	7,090	14,400	3,320	4,420	7,220
21	5,130	2,480	2,660				4,980	6,300	13,000	4,980	3,800	5,560
22	6,220	2,760	3,640				4,100	5,680	11,000	4,000	5,800	7,090
23	5,850	2,480	2,760				3,900	5,800	10,600	3,040	5,090	6,050
24	5,610	2,230	2,660				3,220	4,860	9,070	2,870	1,950	5,800
25	6,980	1,890	3,140				3,500	4,980	7,910	2,540	3,130	5,090
26	7,240	2,230	2,400				4,420	4,640	6,050	2,380	4,750	4,530
27	6,480	3,140	3,420				3,800	4,750	7,910	3,320	4,860	5,200
28	6,100	2,580	4,200				3,320	4,750	7,630	3,600	4,530	4,320
29	6,340	2,580	3,420				3,900	4,530	5,680	3,220	3,500	3,900
30	5,850	2,060	3,220				2,960	4,530	6,430	3,500	4,000	4,980
31	4,890		2,580					4,000		1,360	5,800	

*Daily discharge, in second-feet, of Wisconsin River at Merrill, Wis., for the years ending Sept. 30, 1904-1914—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1905-6</b>												
1	4,420	4,420					3,320	7,220	5,200	5,440	1,520	3,700
2	4,000	4,640					3,410	8,050	5,440	4,980	1,690	4,980
3	4,420	3,220					4,320	8,480	4,980	6,300	2,540	4,860
4	4,000	2,620					5,560	7,910	3,700	6,820	2,700	4,750
5	4,100	3,600					8,050	8,340	7,220	5,920	2,960	4,320
6	4,000	2,780					7,500	8,340	9,520	5,200	2,300	3,800
7	2,700	2,380					7,910	7,090	9,840	6,180	2,300	3,220
8	2,700	3,130					7,630	5,800	8,920	7,630	2,380	2,700
9	1,360	2,960					9,070	4,980	9,370	3,410	2,460	2,230
10	2,090	3,800					14,900	5,680	8,340	3,500	3,220	2,230
11	4,320	3,600					15,100	6,180	7,630	3,410	3,040	1,950
12	5,800	2,460					14,900	6,300	7,630	3,600	3,800	1,820
13	4,980	2,700					15,800	5,320	5,320	3,320	1,950	3,130
14	5,200	2,230					16,000	5,440	4,860	3,600	2,540	3,220
15	3,800	2,540					15,600	5,440	4,210	3,040	2,300	3,320
16	4,320	3,320					13,900	5,560	4,210	1,630	3,220	3,410
17	3,700	3,410					13,000	6,180	3,410	3,220	2,460	925
18	4,530	3,500					13,200	4,860	3,130	2,620	2,540	2,300
19	5,440	3,700					14,000	5,200	3,700	2,620	2,300	2,960
20	5,920	2,960					14,200	5,800	4,860	2,460	700	2,870
21	5,560	3,500					13,700	6,820	5,440	2,300	3,220	2,870
22	5,560	3,500					12,800	6,180	3,600	1,220	5,200	3,500
23	5,800	3,500					11,800	5,320	3,500	790	7,770	3,040
24	4,320	3,220					9,840	5,200	4,320	3,040	6,690	1,520
25	4,640	3,410					9,840	6,180	5,560	3,130	5,800	3,130
26	5,560	2,540					9,070	6,430	4,420	2,460	10,500	2,380
27	5,200	1,950					7,770	4,860	4,210	1,410	8,340	2,780
28	6,050	2,460					7,090	5,800	4,100	2,160	6,960	2,230
29	5,090	3,320					6,180	5,200	3,800	2,460	6,560	2,460
30	3,410	3,040					7,360	6,820	4,980	955	3,900	1,820
31	3,600							6,180		2,230	2,960	
<b>1906-7</b>												
1	790	4,100		1,750	2,180	2,270	7,400	6,170	3,420	3,420	1,600	852
2	1,570	3,410		2,180	1,920	2,270	7,000	5,920	2,640	2,540	1,830	440
3	1,950	4,000		1,920	2,270	2,450	8,000	7,090	3,110	3,760	1,530	626
4	2,230	3,900		1,680	2,090	2,730	11,000	6,430	2,270	2,920	1,030	812
5	1,880	2,230		1,600	2,270	1,530	10,600	7,220	3,420	3,010	1,400	1,220
6	2,300	3,500		1,830	2,180	2,360	10,800	6,560	3,760	3,640	1,340	894
7	2,020	2,960		1,830	2,000	2,270	9,370	6,960	3,320	2,270	1,530	1,400
8	1,520	3,700		1,920	2,000	2,090	8,770	9,990	3,210	3,010	1,030	1,120
9	1,880	3,320		2,180	2,270	1,750	6,820	6,170	2,920	3,640	626	982
10	1,220	2,620		2,360	1,830	2,640	6,560	5,060	2,270	3,420	1,170	335
11	2,700	2,780		1,750	1,920	2,360	5,200	5,800	2,820	3,210	2,920	982
12	2,620	2,090		2,360	2,090	2,000	5,700	6,040	2,640	2,820	1,280	1,170
13	2,700	2,540		2,180	2,360	2,360	5,300	5,180	2,730	2,540	1,680	1,680
14	2,230	2,230		2,000	2,270	2,090	5,200	8,050	4,340	3,420	1,030	1,340
15	1,410	3,320		1,920	1,830	1,530	6,800	9,220	3,420	2,450	982	937
16	2,020	2,700		3,010	2,450	1,460	4,000	9,990	3,530	2,640	1,120	1,600
17	2,460	2,960		2,090	1,750	1,750	3,800	10,200	2,090	2,730	1,030	1,830
18	2,700	2,460		2,180	1,920	1,530	3,760	9,220	1,460	3,110	852	2,090
19	3,900	2,960		2,360	1,920	2,360	4,340	8,920	1,750	2,820	626	10,800
20	2,380	3,130		2,090	2,000	2,180	4,940	7,630	2,640	3,420	734	13,000
21	3,800	3,500		2,000	2,540	2,640	4,340	6,430	2,640	2,820	1,120	12,600
22	3,220	3,410		1,920	2,540	2,180	6,040	6,300	2,540	2,090	1,400	12,000
23	3,220	2,620		2,820	2,090	2,180	6,560	6,300	2,540	2,820	1,920	7,910
24	3,700	2,380		2,360	2,090	3,400	6,040	6,960	2,180	2,640	2,000	7,220
25	6,180	2,960		2,270	2,090	3,400	6,960	6,690	1,750	2,540	2,450	6,170
26	5,440	2,870		2,450	2,090	2,900	5,670	6,820	2,360	2,360	2,180	5,800
27	5,090	3,040		2,270	2,540	3,600	4,340	6,430	2,270	2,270	1,280	4,700
28	4,320	4,210		2,540	2,000	4,000	5,180	6,170	3,010	1,830	1,030	3,870
29	4,000	4,640		2,000		4,800	5,550	3,980	2,180	469	1,120	3,870
30	4,210	4,640		2,270		6,600	5,670	5,430	1,750	1,460	1,460	3,010
31	4,210			2,360		5,800		3,980		1,220	1,280	

*Daily discharge, in second-feet, of Wisconsin River at Merrill, Wis., for the years ending Sept. 30, 1904-1914—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1907-8</b>												
1	2,450	2,360	1,120	1,410	1,730	1,470	2,240	9,520	5,670	1,730	2,310	1,030
2	2,920	2,270	1,080	1,660	1,540	1,240	1,800	8,620	5,800	3,010	1,940	770
3	2,820	2,000	697	1,870	1,130	1,660	2,160	8,480	5,300	2,080	1,300	985
4	3,320	560	1,120	1,730	1,300	1,600	1,870	7,500	4,700	1,870	1,350	1,180
5	2,730	1,460	1,080	1,300	1,600	1,800	2,240	7,090	3,870	3,320	1,540	1,240
6	2,180	1,750	2,000	1,240	1,410	2,010	2,820	6,820	2,820	5,550	1,470	940
7	1,280	1,750	1,340	1,660	1,470	1,870	3,640	6,040	3,110	8,620	2,310	1,130
8	2,180	1,680	1,530	1,540	1,470	1,350	3,980	4,820	6,170	7,910	3,110	3,640
9	2,820	2,180	1,600	1,410	1,730	1,350	4,940	4,940	6,560	6,820	1,800	4,100
10	2,640	469	1,120	1,870	1,470	1,180	5,550	5,180	6,690	5,670	1,660	1,410
11	2,270	662	1,030	1,300	1,600	1,240	5,430	4,940	5,800	4,100	1,600	810
12	2,450	1,530	1,080	1,540	1,800	1,240	6,170	4,220	5,060	3,210	1,130	895
13	2,540	221	662	1,800	1,800	1,660	6,960	3,110	5,550	1,180	560	810
14	1,080	937	1,460	1,540	2,010	1,470	7,770	5,060	5,300	1,800	1,240	940
15	1,530	1,030	1,460	1,600	1,800	1,730	9,370	4,580	5,060	1,660	560	1,410
16	2,270	1,030	1,280	1,470	1,800	1,800	9,520	4,820	6,040	1,600	850	2,080
17	2,090	1,280	982	1,600	1,350	1,730	7,910	4,340	5,920	1,410	500	270
18	1,830	1,460	1,030	1,600	1,730	1,800	8,340	5,060	3,210	1,660	940	290
19	2,360	1,080	1,220	1,660	1,800	1,660	6,960	5,060	3,420	2,160	1,030	340
20	1,830	1,750	1,030	1,660	1,870	1,870	6,690	5,800	3,320	2,470	1,350	270
21	1,170	2,000	1,460	1,180	2,310	1,870	6,820	4,580	3,010	2,640	2,080	290
22	1,280	1,120	1,170	1,350	1,470	1,730	6,820	6,300	2,390	3,110	2,240	195
23	1,750	1,080	1,080	1,410	1,600	2,080	6,960	6,560	2,010	3,320	1,730	195
24	1,680	1,400	1,170	1,660	1,350	2,080	7,090	7,220	3,320	2,310	1,130	195
25	1,750	1,460	734	1,240	1,660	1,940	8,050	6,690	3,640	2,820	210	210
26	1,080	1,030	593	1,030	1,600	2,010	9,680	6,170	3,530	1,540	700	90
27	662	1,920	853	1,600	2,080	1,800	10,500	6,040	3,530	1,660	1,350	180
28	812	1,340	1,830	1,300	1,730	1,800	12,000	6,170	1,870	1,940	1,300	315
29	2,180	1,220	1,680	1,410	1,600	1,730	13,200	5,430	1,350	2,240	810	2,160
30	1,920	1,220	1,280	1,540	-----	1,800	11,300	5,550	2,560	2,010	1,030	3,210
31	2,090	-----	1,340	1,600	-----	2,160	-----	5,300	-----	2,390	1,300	-----
<b>1908-9</b>												
1	3,010	630	1,410	1,600	1,600	1,350	1,410	6,300	3,420	530	3,010	1,940
2	2,310	1,350	1,470	1,730	1,660	1,410	1,180	4,460	4,700	1,470	2,160	1,130
3	2,080	1,410	665	1,600	1,730	1,540	1,300	5,300	4,220	1,180	1,660	1,870
4	1,940	1,470	1,410	2,160	1,660	1,350	1,520	5,430	4,340	1,300	2,920	1,130
5	1,940	1,470	1,540	1,180	1,130	1,410	1,740	6,820	4,340	940	2,310	1,240
6	1,410	1,300	1,410	1,600	1,470	1,350	1,950	9,070	5,060	1,030	2,080	1,080
7	1,730	1,030	1,350	1,730	1,470	1,180	2,170	11,100	6,560	415	2,080	985
8	1,660	1,410	1,180	1,180	1,240	1,240	2,390	10,600	7,770	415	1,940	985
9	1,600	7,220	1,180	940	1,540	1,130	2,390	9,070	9,220	810	2,080	1,540
10	1,660	2,560	1,410	1,080	1,600	1,240	2,240	9,520	6,560	1,730	1,600	1,660
11	1,470	1,730	1,300	985	1,300	1,240	2,390	10,300	4,820	1,180	1,470	1,660
12	1,300	1,240	1,300	1,660	1,470	1,410	2,160	8,340	4,820	1,080	1,940	2,080
13	1,630	895	1,080	1,800	1,410	1,350	2,920	8,050	3,210	1,240	2,080	1,540
14	1,470	895	1,130	1,540	1,600	1,240	3,110	9,370	2,640	1,870	1,870	1,540
15	1,130	810	1,470	1,300	1,470	1,240	3,320	8,190	2,730	1,870	1,800	2,080
16	940	1,080	1,870	1,410	1,080	1,180	3,210	8,770	3,110	2,310	1,660	1,870
17	1,080	1,240	1,800	1,350	1,470	1,730	3,980	9,220	3,640	4,100	1,870	2,820
18	1,350	665	1,730	1,540	1,660	1,410	4,820	9,220	3,530	3,760	2,080	2,390
19	1,300	180	1,800	1,470	1,350	1,350	6,430	9,840	2,820	3,210	2,080	1,940
20	1,470	150	940	1,470	1,240	1,240	8,340	9,070	2,470	4,220	1,940	1,350
21	1,470	735	1,660	1,660	1,080	1,180	9,840	6,820	1,640	3,640	1,660	1,940
22	1,080	315	1,800	1,600	1,410	940	10,200	7,090	1,350	3,760	1,800	2,240
23	1,470	270	1,660	1,410	1,300	735	8,340	4,820	1,870	4,700	1,410	2,010
24	1,410	315	1,730	1,470	1,300	1,410	7,770	4,340	2,010	6,040	940	1,730
25	1,130	340	1,410	1,540	1,470	1,300	6,820	5,550	1,730	4,700	1,350	1,870
26	1,130	2,160	1,350	1,660	1,240	1,540	5,800	5,180	1,540	3,420	1,600	1,800
27	1,470	2,080	1,350	1,600	1,540	1,470	7,220	5,060	1,410	2,010	1,540	1,410
28	2,310	2,160	2,080	1,540	1,300	1,410	6,960	2,640	1,240	2,920	1,540	850
29	1,800	1,410	2,310	1,300	-----	1,240	6,960	3,980	1,180	2,730	1,540	1,600
30	1,940	1,540	1,940	1,540	-----	1,300	6,960	4,100	1,410	2,820	1,540	1,600
31	1,730	-----	1,470	1,660	-----	1,300	-----	4,220	-----	3,320	1,600	-----

NOTE:—Use discharges Sept. 17-28, 1907, with caution. See "Accuracy" under station description.

*Daily discharge, in second-feet, of Wisconsin River at Merrill, Wis., for the years ending Sept. 30, 1904-1914—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1909-10</b>												
1.....	1,470	1,080	4,460	1,940	2,150	2,010	3,510	4,000	2,700	1,060	602	1,440
2.....	1,300	2,240	4,100	1,820	2,150	2,300	3,700	3,510	1,880	1,010	602	1,440
3.....	1,080	3,320	3,870	2,150	2,150	2,080	3,600	3,420	1,820	670	1,380	1,440
4.....	985	3,760	3,870	2,220	2,380	2,220	2,610	2,780	1,620	522	1,160	1,320
5.....	850	3,320	3,210	2,010	2,380	2,300	2,300	2,080	1,110	455	1,220	1,440
6.....	1,600	3,530	3,760	2,220	2,080	2,610	5,060	2,010	602	602	1,010	1,220
7.....	1,540	3,640	2,390	2,220	1,940	2,780	6,540	1,820	1,820	390	1,010	1,010
8.....	1,080	3,210	2,010	2,220	1,380	2,220	6,070	2,010	1,560	602	720	1,060
9.....	1,300	2,640	2,240	2,150	2,150	2,080	5,170	2,220	1,940	1,270	912	1,270
10.....	1,240	2,560	2,240	2,220	2,150	1,680	4,310	2,150	2,010	1,220	1,010	1,620
11.....	1,410	2,920	2,160	2,380	1,940	1,940	3,800	2,010	1,680	1,160	440	1,500
12.....	1,240	4,820	2,010	2,150	2,150	1,940	3,140	1,820	1,440	624	1,060	1,380
13.....	1,470	5,180	1,940	2,010	2,010	1,940	3,900	1,880	1,620	1,010	402	1,160
14.....	1,410	5,430	2,310	2,080	1,820	2,150	3,600	1,440	1,500	1,160	960	1,680
15.....	1,410	5,430	1,940	2,080	1,880	2,960	2,700	1,270	1,220	1,060	624	2,300
16.....	1,540	8,620	1,940	2,220	2,220	2,700	3,050	1,330	1,110	1,220	785	1,750
17.....	1,470	7,360	2,080	2,010	1,940	2,610	3,510	1,220	695	1,010	1,010	1,010
18.....	1,410	5,550	1,940	2,220	1,940	2,300	4,100	2,870	1,220	912	1,010	1,220
19.....	810	4,940	1,870	2,150	2,150	2,610	4,520	3,420	1,220	865	1,060	752
20.....	1,410	5,300	1,940	2,220	2,010	2,780	4,420	4,420	624	1,010	1,010	1,320
21.....	1,800	4,820	1,660	2,010	1,820	4,310	4,840	4,310	752	624	912	1,110
22.....	2,010	4,220	2,080	2,080	2,220	4,520	4,730	4,420	960	1,060	581	1,160
23.....	1,870	4,100	1,730	2,010	2,150	4,310	4,100	4,620	647	1,110	1,060	912
24.....	1,470	3,980	1,600	2,150	2,380	3,800	4,310	4,200	670	865	912	785
25.....	1,410	3,760	1,800	1,620	2,080	3,700	3,420	3,420	1,060	1,110	1,160	1,010
26.....	1,470	3,210	2,080	1,940	2,380	4,200	4,200	3,140	470	1,110	1,160	1,160
27.....	1,470	3,640	2,310	2,150	2,150	4,000	4,950	3,230	414	1,060	1,320	1,380
28.....	1,870	4,340	2,160	2,380	1,880	3,510	4,950	3,900	1,110	1,110	1,060	1,270
29.....	1,600	5,430	2,160	1,820	-----	3,600	4,730	2,610	1,110	1,110	960	752
30.....	1,540	5,060	1,940	1,820	-----	4,100	4,310	1,750	1,110	1,060	1,060	1,500
31.....	1,130	-----	1,660	2,010	-----	4,840	-----	2,220	-----	1,110	1,500	-----
<b>1910-11</b>												
1.....	1,500	1,010	912	1,160	1,380	1,320	4,950	1,620	3,140	1,010	3,230	1,620
2.....	1,380	1,270	1,010	1,220	1,270	1,380	4,620	1,560	2,960	960	3,510	1,620
3.....	1,160	1,750	1,010	1,270	1,440	960	3,900	1,820	2,300	752	3,600	1,620
4.....	1,680	1,680	912	1,160	1,620	1,750	3,230	2,380	2,150	670	2,530	1,270
5.....	1,270	1,940	720	1,500	1,160	1,500	3,230	2,610	4,620	624	2,080	1,750
6.....	1,500	960	825	1,820	825	1,680	3,050	2,700	4,730	1,060	2,010	1,500
7.....	1,680	960	960	1,440	1,620	1,440	2,780	1,500	4,620	1,880	2,220	2,080
8.....	1,820	912	960	1,270	1,620	1,620	2,300	1,440	3,050	1,750	2,300	3,700
9.....	1,380	1,440	865	1,110	1,320	1,110	2,700	2,080	2,700	720	2,530	1,500
10.....	1,440	1,010	1,010	752	2,010	1,160	2,610	2,870	3,050	1,560	2,960	1,620
11.....	1,380	695	1,110	1,270	1,820	1,750	2,870	2,700	2,080	1,500	2,700	1,880
12.....	1,220	1,440	1,010	1,220	1,440	1,560	3,900	1,820	1,880	1,680	2,870	1,680
13.....	1,270	1,220	1,110	1,270	1,160	1,750	4,620	2,080	1,680	1,270	2,870	1,880
14.....	785	1,620	1,220	1,320	1,320	2,150	4,840	1,750	1,500	1,500	2,960	5,280
15.....	1,440	1,270	1,220	1,160	1,940	1,940	5,280	1,620	1,320	1,440	1,880	4,420
16.....	541	1,220	1,110	1,220	1,880	1,820	4,620	3,600	1,380	1,060	1,940	3,670
17.....	1,010	1,270	1,560	1,560	1,680	2,610	5,390	3,700	1,160	1,060	1,820	6,790
18.....	1,320	1,270	1,110	1,560	1,620	2,530	4,200	3,420	1,060	1,220	1,380	5,060
19.....	1,380	1,220	1,270	1,750	1,560	1,750	4,620	3,420	695	2,380	1,820	3,900
20.....	1,620	1,110	1,270	1,440	1,500	1,750	5,840	5,390	1,060	2,080	1,060	2,870
21.....	1,270	1,110	1,440	2,080	1,440	2,380	4,730	6,180	1,110	1,380	1,220	3,900
22.....	1,680	1,010	1,500	1,590	1,270	3,700	4,950	6,300	1,110	2,150	2,010	3,800
23.....	1,820	865	1,620	1,320	1,270	3,900	5,060	7,180	1,110	1,110	2,610	3,230
24.....	1,880	960	1,750	1,500	1,270	3,900	4,520	7,180	1,110	2,010	2,450	2,960
25.....	1,620	912	1,820	1,820	1,560	3,320	3,700	6,920	1,010	1,500	2,150	3,420
26.....	1,160	1,010	1,440	1,820	1,440	4,000	3,700	5,500	720	2,010	2,300	2,530
27.....	1,680	1,010	720	1,380	1,560	4,840	4,200	4,950	695	1,940	2,150	3,600
28.....	1,880	1,060	1,320	1,380	1,380	4,620	1,880	5,390	1,060	1,940	2,530	3,600
29.....	1,560	1,270	1,380	1,380	-----	5,170	2,610	3,700	1,110	1,940	2,010	4,200
30.....	1,440	1,010	1,500	1,320	-----	5,390	3,050	3,600	1,110	1,680	1,380	4,950
31.....	1,620	-----	1,820	1,680	-----	4,620	-----	3,320	-----	1,010	1,680	-----



Daily discharge, in second-feet, of Wisconsin River at Merrill, Wis., for the years ending Sept. 30, 1904-1914—(Continued).

Day	Oct	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept
<b>1911-12</b>												
1	5,720	4,730					960	6,070	5,170	785	2,780	20,100
2	4,950	4,000					3,140	6,070	5,170	752	2,300	23,500
3	6,070	4,520					3,320	5,170	5,170	2,150	1,500	7,590
4	8,560	2,610					4,310	5,610	5,170	2,010	1,500	12,600
5	8,140	2,870					5,170	7,860	5,170	1,620	1,500	8,990
6	18,200	3,700					8,140	7,590	4,950	1,560	2,010	8,990
7	19,000	4,200					9,570	7,590	4,950	1,750	2,960	7,590
8	15,800	3,050					10,800	7,590	4,520	1,750	3,900	7,050
9	12,300	3,900					9,570	6,540	4,310	1,380	5,610	6,300
10	10,500	3,700					8,420	5,170	3,140	1,880	12,000	4,950
11	7,590	3,140					8,700	5,170	1,620	2,150	14,000	4,310
12	7,590	3,900					8,140	5,390	2,300	2,150	13,600	4,100
13	6,790	2,300					8,140	4,730	2,780	1,880	11,100	3,900
14	6,660	2,530					7,050	3,140	2,010	1,620	7,590	4,520
15	6,180	3,420					7,860	5,170	2,300	1,440	7,320	4,520
16	8,000	3,600					8,140	5,840	2,450	1,560	5,840	4,310
17	11,800	2,870					7,590	3,510	2,010	2,010	6,300	4,100
18	11,800	2,960					7,320	4,100	2,780	1,750	5,610	3,700
19	13,000	3,050					6,300	4,520	1,620	1,750	5,610	3,900
20	10,300	3,140					6,070	4,310	2,610	1,160	6,070	3,510
21	8,990	2,780					6,070	4,310	2,610	1,620	5,610	3,700
22	7,590	3,050					8,140	5,390	2,010	1,380	4,950	4,100
23	7,180	3,140					9,570	8,140	2,450	2,450	4,730	3,140
24	6,790	3,230					9,860	9,570	2,150	27,200	4,520	2,960
25	6,790	3,140					7,590	8,420	2,300	15,600	4,520	3,320
26	7,180	3,140					6,540	6,540	2,610	10,200	3,320	3,700
27	6,180	3,050					7,860	8,140	2,780	7,320	4,520	2,450
28	4,840	3,420					7,590	9,280	1,750	4,950	3,900	2,450
29	4,520	3,420					7,320	9,570	1,380	3,510	3,900	1,880
30	4,420	3,420					6,540	8,140	2,450	3,140	4,730	2,780
31	4,840							7,590		2,780	5,170	
<b>1912-13</b>												
1	2,610	2,300	3,140	2,150	2,300	1,750	6,790	5,170	6,790	1,880	5,610	2,150
2	2,780	2,150	3,320	2,450	2,300	1,500	8,420	4,730	5,610	2,300	3,900	2,150
3	2,960	1,750	3,140	2,450	1,880	1,620	12,000	4,520	5,390	2,010	4,100	2,960
4	2,610	2,150	4,310	1,750	2,010	1,620	11,100	4,520	5,390	2,300	3,320	2,010
5	2,300	2,300	4,730	2,300	2,010	1,750	10,500	5,170	4,950	2,300	2,610	3,140
6	2,960	2,780	3,900	1,750	1,880	2,010	9,280	4,950	4,520	4,100	3,700	2,150
7	2,960	2,150	3,510	2,780	2,010	1,750	9,570	3,700	4,520	3,320	3,140	2,960
8	2,610	2,150	3,320	2,010	2,010	1,500	8,990	4,950	3,900	3,510	2,780	2,450
9	3,140	2,010	3,320	2,300	1,750	1,620	7,860	3,700	3,140	4,950	2,780	2,610
10	3,140	2,300	3,140	2,300	2,150	1,750	7,590	3,700	3,700	4,520	2,610	2,010
11	2,960	2,150	3,510	2,450	2,150	2,010	7,590	3,700	3,320	4,950	2,780	2,610
12	2,960	2,150	2,450	2,150	2,610	2,010	7,050	2,960	6,070	5,390	2,150	2,300
13	4,730	3,320	3,140	2,300	2,300	2,010	7,050	3,320	2,780	5,390	2,610	2,450
14	5,170	2,610	3,140	2,300	1,750	3,140	6,790	3,700	3,320	4,950	2,300	2,300
15	4,310	2,610	2,780	2,300	1,750	2,010	9,570	3,700	4,100	4,950	2,010	2,010
16	3,900	2,780	2,610	2,010	1,880	2,010	9,860	3,510	2,010	3,900	2,450	2,300
17	3,900	2,610	3,140	2,300	1,880	2,450	12,000	4,520	2,300	5,170	2,010	2,780
18	3,900	1,880	3,140	2,010	1,750	2,150	12,300	3,140	2,450	4,950	1,380	1,880
19	4,100	2,450	2,610	2,010	1,750	2,610	12,000	3,510	2,780	4,310	2,780	1,880
20	3,700	2,150	2,300	2,300	1,500	4,100	10,800	3,700	2,610	4,520	2,300	2,300
21	2,960	2,450	2,610	2,300	1,750	4,100	9,570	5,840	2,610	3,320	2,150	2,780
22	2,450	2,450	2,450	2,300	1,750	3,320	8,420	6,790	2,610	3,320	2,780	3,900
23	2,780	2,300	2,150	2,010	2,010	2,780	8,700	6,540	865	2,610	2,780	3,510
24	2,960	2,300	2,610	2,010	1,010	2,610	8,420	5,840	2,300	2,960	2,300	4,100
25	2,780	2,010	2,450	2,010	2,150	3,140	8,420	5,390	2,010	3,510	1,880	4,950
26	2,300	2,300	2,150	2,010	1,500	3,320	7,320	4,100	2,150	3,700	2,010	4,100
27	2,450	2,150	1,880	1,750	1,500	3,700	7,860	5,170	2,300	9,280	2,010	4,950
28	2,300	2,150	2,150	1,620	2,300	3,140	6,300	4,100	2,960	10,200	1,880	4,520
29	2,610	2,300	1,620	2,150		4,100	5,390	4,950	2,010	9,570	2,450	3,510
30	2,300	2,300	1,880	1,880		4,950	4,950	7,050	2,300	7,320	2,150	4,100
31	2,150		2,450	2,010		6,300		6,790		6,070	1,500	

*Daily discharge, in second-feet, of Wisconsin River at Merrill, Wis., for the years ending Sept. 30, 1904-1914—(Concluded).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1913-14												
1	3,480	2,920	3,290				4,080	10,100	3,100	7,890	2,590	5,180
2	3,880	3,100	3,100				4,080	7,370	2,440	7,370	2,440	3,680
3	4,290	2,750	2,440				3,680	7,370	2,300	6,120	2,920	3,290
4	2,300	2,590	3,100				3,680	6,860	5,410	6,360	2,590	4,080
5	3,100	2,920	3,100				2,920	6,120	5,640	5,410	2,300	3,290
6	4,080	2,440	3,290				3,480	5,880	6,860	4,730	2,300	3,680
7	3,290	3,680	2,590				3,290	4,730	7,370	4,290	2,750	2,170
8	3,480	4,510	1,300				2,750	5,880	5,880	3,680	2,300	2,440
9	3,680	2,590	2,050				2,590	4,510	5,180	3,290	2,300	2,300
10	2,440	2,050	2,050				2,590	5,410	4,510	2,750	2,050	2,300
11	2,590	2,170	1,820				2,590	4,080	4,290	3,290	2,300	3,290
12	3,290	1,930	1,820				2,590	4,510	4,730	3,290	2,300	2,590
13	3,290	2,050	2,300				1,930	3,680	2,920	3,100	2,300	3,480
14	3,100	2,590	2,170				2,590	3,290	2,750	3,290	2,590	3,680
15	2,920	2,170	1,400				3,290	2,440	2,300	2,920	2,440	2,440
16	2,440	1,930	1,300				3,100	2,590	2,050	3,290	2,300	2,750
17	2,300	1,500	1,930				3,480	2,920	2,170	2,920	2,170	2,590
18	2,920	2,590	1,600				5,640	1,820	2,300	2,590	2,300	3,100
19	3,290	2,590	1,820				4,510	2,590	2,590	a1,350	3,290	2,920
20	2,440	2,170	1,820				5,880	2,300	2,590	2,440	3,290	3,290
21	2,050	1,930	1,600			1,600	5,880	3,100	2,750	3,290	3,290	2,750
22	1,600	3,100	1,210			1,400	5,410	5,180	2,440	2,300	3,680	3,100
23	1,300	2,920	1,600			760	4,950	4,510	2,590	2,590	4,950	2,920
24	1,930	2,050	1,400			1,600	5,410	4,950	2,920	2,750	6,120	2,920
25	2,300	2,050	1,300			b1,820	6,860	3,480	3,290	3,680	5,180	2,590
26	1,930	2,170	1,210			2,050	6,860	2,750	4,730	2,920	5,410	2,590
27	3,100	1,930	1,040			1,820	6,610	3,290	4,950	2,590	5,410	2,440
28	3,100	2,590	2,440			1,710	8,430	3,290	7,630	2,590	4,950	2,300
29	3,680	2,590	2,300			2,170	10,700	3,100	7,630	2,300	4,080	2,170
30	3,880	2,920	2,300			2,920	10,700	3,100	7,890	3,100	4,730	2,170
31	2,920		1,300			3,290		2,920		2,590	4,080	

(a) Holding water at dam above.

(b) Interpolated.

NOTE:—Daily discharge, Jan. 1, 1904, to Sept. 30, 1913, computed from fairly well-defined rating curves; discharge Oct. 1, 1913, to Sept. 30, 1914, computed from a rating curve fairly well defined between 1,550 and 8,430 second-feet (gage heights, 4.6 and 8.0 feet).

Discharge in 1914, estimated, because of ice, from gage heights, observer's notes, discharge measurements, and climatologic records, as follows: Jan. 1—10, 2,110 second-feet; Jan. 11—20, 1,890 second-feet; Jan. 21—31, 1,860 second-feet; Feb. 1—10, 2,020 second-feet; Feb. 11—20, 1,880 second-feet; Feb. 21—28, 1,710 second-feet; Mar. 1—10, 1,630 second-feet; Mar. 11—20, 1,840 second-feet.



Monthly discharge of Wisconsin River at Merrill, Wis., for the years ending Sept. 30, 1904-1914.  
[Drainage area, 2,630 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1903-4						
October						
November						
December						
January	4,540	3,220	3,660			
February	4,660	3,330	3,750			
March	4,300	2,940	3,890			
April	11,200	3,970	6,240			
May	18,100	5,610	8,930			
June	10,600	3,420	6,470			
July	7,240	1,480	3,960			
August	7,110	2,310	3,770			
September	8,940	2,140	5,000			
1904-5						
October	17,500	3,420	7,340			
November	5,980	1,410	2,880			
December	4,200	1,490	2,570			
January						
February						
March						
April	13,000	2,960	7,170			
May	8,480	2,460	5,640			
June	18,000	3,040	9,920			
July	9,680	1,360	5,290			
August	5,920	1,950	4,090			
September	7,220	3,900	5,010			
1905-6						
October	5,920	1,360	4,410			
November	4,640	1,950	3,150			
December						
January						
February						
March						
April	16,000	3,320	10,400			
May	8,480	4,860	6,230			
June	9,840	3,130	5,510			
July	7,630	790	3,450			
August	10,500	700	3,770			
September	4,980	925	2,950			
1906-7						
October	6,180	790	2,900			
November	4,640	2,090	3,170			
December						
January	3,010	1,600	2,140			B
February	2,540	1,830	2,130			B
March	6,600	1,460	2,690			B
April	11,000	3,760	6,390			B
May	10,200	3,980	6,880			B
June	4,340	1,460	2,700			B
July	3,760	469	2,690			B
August	2,920	626	1,370			C
September	13,000	335	3,710			B
1907-8						
October	3,320	662	2,000			B
November	2,360	221	1,370			C
December	2,000	593	1,200			C
January	1,870	1,030	1,510			B
February	2,310	1,130	1,650			B
March	2,160	1,180	1,700			B
April	13,200	1,800	6,630			B
May	9,520	3,110	5,870			B
June	6,690	1,350	4,220			B
July	8,620	1,180	3,030			B
August	3,110	210	1,370			C
September	4,100	(a) 90	1,050			C
The year	13,200	90	2,630			

(a) Use with caution; see "Accuracy" in station description.

Monthly discharge of Wisconsin River at Merrill, Wis., for the years ending Sept. 30, 1904-1914—(Continued).

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1908-9						
October.....	3,010	940	1,600	-----	-----	B
November.....	7,220	150	1,340	-----	-----	C
December.....	2,310	665	1,490	-----	-----	C
January.....	2,160	940	1,490	-----	-----	B
February.....	1,730	1,080	1,420	-----	-----	B
March.....	1,730	735	1,300	-----	-----	B
April.....	10,200	1,180	4,530	-----	-----	B
May.....	11,100	2,640	7,160	-----	-----	B
June.....	9,220	1,180	3,520	-----	-----	B
July.....	6,040	415	2,410	-----	-----	B
August.....	3,010	940	1,840	-----	-----	B
September.....	2,820	850	1,660	-----	-----	B
The year.....	11,100	150	2,490	-----	-----	-----
1909-10						
October.....	2,010	810	1,410	-----	-----	C
November.....	8,620	1,080	4,250	-----	-----	C
December.....	4,460	1,600	2,370	-----	-----	C
January.....	2,380	1,620	2,090	-----	-----	D
February.....	2,380	1,380	2,070	-----	-----	D
March.....	4,840	1,680	2,940	-----	-----	D
April.....	6,540	2,300	4,140	-----	-----	C
May.....	4,620	1,220	2,760	-----	-----	B
June.....	2,700	414	1,260	-----	-----	C
July.....	1,270	390	941	-----	-----	C
August.....	1,500	402	957	-----	-----	C
September.....	2,300	752	1,280	-----	-----	C
The year.....	8,620	390	2,200	-----	-----	-----
1910-11						
October.....	1,880	541	1,430	-----	-----	C
November.....	1,940	695	1,180	-----	-----	C
December.....	1,820	720	1,210	-----	-----	C
January.....	2,080	752	1,410	-----	-----	C
February.....	2,010	825	1,480	-----	-----	C
March.....	5,390	960	2,560	-----	-----	C
April.....	5,840	1,880	3,930	-----	-----	C
May.....	7,180	1,440	3,560	-----	-----	C
June.....	4,730	695	1,910	-----	-----	C
July.....	2,380	624	1,450	-----	-----	C
August.....	3,600	1,060	2,280	-----	-----	C
September.....	6,790	1,270	3,060	-----	-----	C
The year.....	7,180	541	2,120	-----	-----	-----
1911-12						
October.....	19,000	4,420	8,650	-----	-----	B
November.....	4,730	2,300	3,330	-----	-----	B
December.....	-----	-----	-----	-----	-----	-----
January.....	-----	-----	-----	-----	-----	-----
February.....	-----	-----	-----	-----	-----	-----
March.....	-----	-----	-----	-----	-----	-----
April.....	10,800	960	7,190	-----	-----	B
May.....	9,570	3,140	6,330	-----	-----	B
June.....	5,170	1,380	3,090	-----	-----	B
July.....	27,200	752	3,650	-----	-----	C
August.....	14,000	1,500	5,450	-----	-----	C
September.....	23,500	1,880	5,970	-----	-----	C
The year.....	27,200	752	4,650	-----	-----	-----

Monthly discharge of Wisconsin River at Merrill, Wis., for the years ending Sept. 30, 1904-1914—(Concluded).  
[Drainage area, 2,630 square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1912-13						
October.....	5,170	2,150	3,090	-----	-----	B
November.....	3,320	1,750	2,320	-----	-----	B
December.....	4,730	1,620	2,870	-----	-----	B
January.....	2,780	1,620	2,140	-----	-----	D
February.....	2,610	1,010	1,910	-----	-----	D
March.....	6,300	1,500	2,670	-----	-----	D
April.....	12,300	4,950	8,750	-----	-----	B
May.....	7,050	2,960	4,630	-----	-----	B
June.....	6,790	865	3,390	-----	-----	B
July.....	10,200	1,880	4,570	-----	-----	B
August.....	5,610	1,380	2,620	-----	-----	B
September.....	4,950	1,880	2,930	-----	-----	B
The year.....	12,300	865	3,490	-----	-----	-----
1913-14						
October.....	4,290	1,300	2,910	-----	-----	B
November.....	4,510	1,500	2,520	-----	-----	B
December.....	3,290	1,040	2,000	-----	-----	B
January.....	-----	-----	1,950	-----	-----	C
February.....	-----	-----	1,850	-----	-----	C
March.....	3,290	-----	1,710	-----	-----	C
April.....	10,700	1,930	4,680	-----	-----	B
May.....	10,100	1,820	4,320	-----	-----	B
June.....	7,890	2,050	4,140	-----	-----	B
July.....	7,890	1,350	3,580	-----	-----	B
August.....	6,120	2,050	3,280	-----	-----	B
September.....	5,180	2,170	2,950	-----	-----	B
The year.....	10,700	-----	3,270	-----	-----	-----

NOTE:—Monthly discharge table for January to December, 1904, differs from that published in U. S. Geol. Survey Water-Supply Paper 128 in the use here of three significant figures.

WISCONSIN RIVER AT NEKOOSA, WIS.

Location.—A mile and a half below Nekoosa, Wis. Ten Mile Creek enters from the left about 2 miles below the station. Big Roche à Cri Creek enters also from the left about 28 miles below the station.

Records available.—May 21 to September 30, 1914.

Drainage area.—5,500 square miles.

Gage.—Staff gage, in two sections; read twice daily, morning and evening to quarter tenths; limits of use: hundredths below 3.0 feet, half tenths from 3.0 to 4.0 feet, and tenths above 4.0 feet. Records after September 30, 1914, to be obtained from recording gage in a timber well in the river, on the right bank, about 300 feet below the site of the staff gage.

Control.—Heavy gravel; clean and probably permanent.

Discharge measurements.—Made from a car suspended from a cable having a clear span of 750 feet, a short distance from staff gage.

Winter flow.—Data not yet available.

Regulation.—Flow controlled by the operation of the power plants and storage reservoirs above.

Cooperation.—The Wisconsin Valley Improvement Co. aided financially in establishing the recording gage and cable.

The following discharge measurement was made by G. H. Canfield and H. C. Beckman:

September 22, 1914: Gage height, 3.19; discharge, 5,000 second-feet.

*Daily gage height, in feet, of Wisconsin River near Nekoosa, Wis.,  
for the year ending Sept. 30, 1914.*

[Henry Mans, Observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1									3.65	8.0	2.58	3.2
2									3.85	8.0	2.55	4.2
3									3.85	8.2	2.15	3.6
4									6.55	7.8	2.05	3.65
5									10.0	6.3	2.55	3.5
6									(a)	5.7	2.42	3.6
7									(a)	4.6	1.90	3.2
8									(a)	4.1	1.80	3.25
9									(a)	3.55	1.95	2.75
10									9.2	3.45	2.25	2.45
11									7.2	3.55	2.25	2.65
12									5.0	3.85	2.12	2.65
13									4.5	3.9	2.00	2.8
14									3.9	3.85	1.85	3.75
15									3.8	3.9	1.55	3.4
16									3.9	3.95	1.28	4.4
17									2.80	3.35	1.75	4.8
18									2.48	3.35	2.15	5.2
19									2.60	3.3	2.78	4.5
20									3.25	3.25	3.9	4.4
21								3.0	3.5	2.95	3.8	4.3
22								3.35	3.7	2.50	3.45	3.6
23								6.7	3.4	2.50	2.95	3.05
24								8.4	3.15	2.52	3.4	3.4
25								7.7	3.6	2.50	3.95	3.1
26								6.1	3.85	2.45	4.4	2.90
27								5.5	4.3	3.35	4.0	2.92
28								4.9	6.0	3.1	3.75	2.75
29								4.6	7.6	2.55	3.95	2.42
30								4.2	8.0	2.20	3.65	2.45
31								3.6		2.32	3.5	

(a) Water above the gage.; maximum approximately 15.3 feet.

### WISCONSIN RIVER NEAR NECEDAH, WIS.

**Location.**—At the highway bridge known as "Pete-in-Well Bridge," about 3 miles east of Necedah, Wis., on the road from Necedah to Strongs Prairie, about 5 miles above the mouth of the big Roche à Cri Creek, coming in from the left.

**Records available.**—December, 1902, to June 30, 1914, when station was discontinued. Data published also in U. S. Geol. Survey Water-Supply Papers 83, 98, 128, 171, 207, 245, 265, 285, 305, and 325.

**Drainage area.**—5,800 square miles.

**Gage.**—Chain gage attached to bridge. Gage heights as published in Water-Supply Paper 265 for the year 1909 approximately .04 foot too high; gage heights for 1910, Water-Supply Paper 285, approximately .08 foot too high; gage heights for 1911, as published in Water-Supply Paper 305, approximately .13 foot too high; gage heights for 1912, as published in Water-Supply Paper 325, approximately .17 foot too high. Gage heights for 1913 referred to original datum.

**Control.**—Bed of river near right bank rocky; both up and down stream the bed is for the most part sandy and, as shown by the cross-section of measurements, shifts continually.

**Floods.**—Highest stage recorded at this station, 16.8 feet, October 10, 1911.

**Winter flow.**—Discharge relation greatly modified by ice which forms at the gage to a thickness of 1 to 2 feet.

**Accuracy.**—Owing to the shifting nature of the bed, estimates based on occasional discharge measurements should be used with great caution.

**Cooperation.**—Gage heights furnished by the Wisconsin Valley Improvement Co.

Discharge measurements of Wisconsin River near Necedah, Wis., during the years ending Sept. 30, 1903-1914.

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
1902-3			
Dec. 2	L. R. Stockman	4.90	3,880
Dec. 23 (a)	L. R. Stockman	5.40	3,530
Jan. 13 (a)	L. R. Stockman	5.65	2,840
Feb. 5 (a)	L. R. Stockman	5.80	2,580
Mar. 5 (a)	L. R. Stockman	5.80	2,420
Mar. 26	E. Johnson, Jr.	11.05	21,300
Apr. 2	L. R. Stockman	7.55	10,200
Apr. 28	L. R. Stockman	6.50	7,120
June 12	L. R. Stockman	6.00	5,890
July 7	L. R. Stockman	10.50	20,900
Aug. 19	L. R. Stockman	6.20	6,960
Sept. 4	L. R. Stockman	5.30	5,050
1903-4			
Oct. 12	L. R. Stockman	9.43	12,500
Jan. 12 (a)	E. Johnson, Jr.	4.60	3,000
May 11	E. Johnson, Jr.	9.60	17,100
May 23	Johnson and Hanna	7.05	9,920
July 16	E. Johnson, Jr.	5.80	5,840
Sept. 21	E. Johnson, Jr.	4.92	3,800
1904-5			
Oct. 14	F. W. Hanna	13.35	34,400b
Apr. 4	S. K. Clapp	12.33	29,300
May 25	S. K. Clapp	7.65	13,400
June 12	M. S. Brennan	12.90	30,000
Aug. 9	M. S. Brennan	6.85	9,270
1908			
Jan. 29	G. A. Gray	5.15	1,970
Feb. 19	G. A. Gray	5.70	2,280
July 7	G. A. Gray	6.12	5,570
1909			
Feb. 11	W. M. O'Neill	6.01	2,190
1910			
Sept. 9	V. H. Reineking (c)	4.75	1,800
1913			
Aug. 18	B. J. Peterson	5.13	2,670
1914			
Dec. 9 (d)	Canfield and Beckman	5.98	4,030
Jan. 28 (e)	O. A. Steller	6.26	2,600
Apr. 9	M. F. Rather	6.88	6,390

(a) Ice present.

(b) Add to this discharge 3,000 second-feet overflow.

(c) Engineer for D. W. Mead, consulting engineer, Madison, Wis.

(d) About 50 per cent ice cover.

(e) About 90 per cent ice cover.

Daily gage height, in feet, of Wisconsin River near Necedah, Wis., for the years ending Sept. 30, 1907-1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1907												
1							13.3	8.05	6.6	5.2	4.85	4.6
2							13.3	7.75	6.6	5.7	5.1	4.15
3							12.7	7.75	6.4	5.9	4.8	5.05
4							11.75	7.7	6.7	6.4	4.75	4.6
5							10.95	7.7	6.4	6.6	4.8	4.4
6							10.5	7.65	6.0	7.1	4.9	4.6
7							10.7	7.7	6.2	7.4	4.7	4.55
8							10.45	7.3	6.05	7.5	4.6	4.4
9							10.0	7.3	5.95	7.0	4.5	4.0
10							9.6	7.1	5.85	6.7	4.5	4.8
11							9.2	7.4	6.1	6.55	4.8	4.45
12							8.75	7.1	5.9	6.3	4.3	4.45
13						6.4	8.9	7.05	6.0	6.15	4.25	4.4
14						6.55	8.9	7.1	6.1	5.9	4.6	4.6
15						6.4	9.0	6.9	6.0	5.5	4.3	4.55
16						6.35	8.8	7.1	6.05	5.8	4.7	4.4
17						6.4	8.35	7.7	5.65	5.2	4.7	4.7
18						6.6	8.2	8.2	6.05	5.4	4.75	4.6
19						6.85	8.0	8.4	5.55	5.4	4.2	4.7
20						6.4	7.8	8.3	5.65	5.8	4.85	4.75
21						6.2	7.7	8.1	5.5	5.6	4.4	5.4
22						6.3	7.6	7.8	5.9	5.6	4.6	8.6
23						6.9	7.5	7.5	5.6	6.0	4.8	9.7
24						7.2	7.55	7.25	5.7	5.8	4.8	9.8
25						7.9	7.8	7.4	6.0	5.8	4.8	8.8
26						9.05	8.0	7.45	6.15	5.1	4.6	8.6
27						10.0	8.0	7.2	6.0	5.4	5.0	7.45
28						11.7	8.2	6.9	5.75	5.35	4.9	7.1
29						13.2	8.2	7.2	5.8	4.85	4.9	6.75
30						13.5	8.05	7.0	5.7	5.5	4.95	6.5
31						13.3		6.9		5.1	4.8	
1907-8												
1	6.3	4.7	4.7				5.45	12.15	7.63	5.75	5.5	4.55
2	6.2	4.7	4.6				5.65	12.05	8.3	5.6	5.45	4.6
3	6.0	4.8	4.3				5.95	11.12	9.5	5.3	5.3	4.7
4	5.75	4.5	4.55				5.8	10.1	8.63	5.45	5.75	4.75
5	5.7	5.15	4.45				5.7	9.5	7.78	5.45	5.3	4.75
6	5.7	4.9	4.6				5.65	8.95	7.1	5.7	5.35	4.7
7	5.45	4.5	4.7				6.2	8.45	7.0	6.15	5.3	5.15
8	5.4	4.5	4.35				6.4	7.98	6.65	6.85	5.05	5.05
9	5.35	4.8	4.2				6.8	7.68	6.48	8.95	5.05	4.75
10	5.2	4.8	4.5			5.6	7.0	7.6	7.12	10.15	5.15	4.75
11	5.0	4.4	4.7			5.5	7.15	7.25	8.08	10.15	5.1	4.35
12	5.25	5.1	4.5			5.8	7.4	6.98	8.2	9.25	5.2	5.35
13	5.2	4.8	4.7			5.7	8.0	6.98	7.94	8.05	4.65	5.05
14	4.75	4.6	4.4			5.2	8.4	7.1	7.35	7.35	5.0	4.7
15	5.4	4.4	4.4			5.1	8.4	7.52	7.15	6.95	4.95	5.05
16	5.2	4.7	4.5			4.95	8.8	7.6	7.15	6.45	5.0	4.55
17	4.8	4.3	4.5			5.4	8.9	7.62	7.08	6.1	4.9	4.35
18	4.9	4.5	4.6			5.5	9.15	7.75	6.8	6.0	4.85	4.55
19	4.85	4.6	4.6			5.4	8.9	7.88	6.6	5.95	4.85	4.65
20	5.5	4.35	5.8			5.4	8.5	7.75	6.45	5.55	4.75	4.95
21	4.65	4.4	5.7			5.3	8.2	7.6	6.18	5.95	4.9	4.45
22	5.2	4.5				5.1	8.2	7.9	6.1	5.65	4.9	4.9
23	4.85	4.6				4.9	8.1	7.9	6.1	5.85	4.75	4.65
24	4.85	4.8				5.2	7.8	8.28	6.05	5.9	5.35	4.45
25	4.6	4.6				5.2	7.8	9.1	5.9	5.85	4.8	4.6
26	4.8	4.75				5.5	7.7	9.1	5.75	5.85	5.2	4.4
27	4.8	4.4				6.1	8.7	8.65	6.15	5.65	4.85	4.5
28	4.6	4.7				5.9	9.9	8.24	6.1	5.95	4.75	4.4
29	5.05	4.7				5.9	10.9	8.28	5.8	5.7	4.75	4.55
30	4.9	4.5				5.7	11.5	8.15	5.8	5.7	4.8	4.45
31	4.6					5.8		7.78		5.25	5.1	

Daily gage height, in feet, of Wisconsin River near Necedah, Wis., for the years ending Sept. 30, 1907-1914.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1908-9</b>												
1	4.7	5.15	5.65					9.0	6.8	5.4	5.5	4.8
2	4.7	5.05	4.95					8.7	6.8	5.4	5.1	4.9
3	5.2	5.05	5.0		5.9	6.1		8.4	6.7	5.3	5.4	5.0
4	5.4	5.0	5.0					8.3	7.2	5.3	5.2	4.8
5	5.2	4.9	5.3					8.7	7.5	5.0	5.3	4.9
6	5.55	4.75	7.35	5.6				8.7	7.7	4.9	5.3	4.9
7	5.0	4.65						9.5	7.9	5.6	5.4	4.9
8	5.2	4.9						10.4	8.2	4.8	5.3	4.8
9	5.05	4.65					7.5	10.8	9.1	4.8	5.2	4.7
10	4.85	4.65			6.0	6.2	8.4	11.1	9.6	5.2	5.6	4.9
11	4.85	4.6					8.7	10.8	9.4	5.1	5.4	4.9
12	4.7	5.75					8.4	10.2	9.0	5.0	4.7	5.0
13	5.15	5.4		5.7			8.1	9.8	8.2	4.6	5.1	4.9
14	4.9	4.8					8.9	9.2	7.8	5.0	5.0	4.8
15	4.85	4.85					9.3	9.1	7.4	4.9	5.1	4.8
16	4.8	4.6					9.3	8.7	7.2	5.1	5.1	5.0
17	4.8	4.4			6.0	6.2	9.2	9.1	7.0	5.2	5.4	5.1
18	4.7	4.3					9.0	9.9	6.9	5.1	5.3	5.4
19	4.35	4.6					9.4	10.4	6.9	5.3	5.2	5.4
20	4.9	4.9		5.8			9.7	10.2	7.1	5.4	5.1	5.3
21	4.5	4.75					10.5	9.9	6.9	5.2	5.1	5.6
22	4.3	4.5					10.8	9.1	6.8	5.2	5.2	5.4
23	4.7	4.65					11.3	8.6	6.5	5.1	5.2	5.0
24	4.6	4.25				5.7	11.3	8.2	6.3	5.0	5.2	5.2
25	4.75	4.3			5.9	5.7	10.9	8.2	5.9	5.0	5.1	5.0
26	4.6	4.25				5.9	10.1	7.7	5.8	5.3	4.9	5.2
27	4.7	4.3		5.8		5.7	9.6	7.2	5.8	5.4	4.9	5.1
28	4.6	4.55				5.7	9.2	7.4	5.8	5.6	4.9	5.0
29	4.7	5.5				5.6	9.3	7.1	5.9	5.2	5.1	4.7
30	4.9	5.75				5.7	9.1	7.0	5.6	5.5	5.2	5.0
31	5.1					4.9		6.9		5.4	5.1	
<b>1909-10</b>												
1	5.8	5.0	7.4				6.8	8.3	5.9	4.8	4.1	4.4
2	4.8	5.1	7.5				6.9	7.9	5.9	4.4	4.7	4.7
3	4.8	4.8	7.2				7.0	7.5	5.7	4.7	4.3	4.6
4	4.7	4.9	7.0		6.5		6.7	7.2	5.6	4.4	4.1	4.8
5	4.8	4.8	7.0			6.6	6.7	6.6	5.5	4.0	4.2	5.1
6	4.6	4.5	6.8				6.4	6.5	5.3	4.9	4.1	5.2
7	5.1	4.8	6.8	6.7			6.7	6.5	5.6	5.3	4.4	4.5
8	4.6	5.4	6.4				8.0	6.4	5.1	4.3	4.0	4.5
9	4.6	6.0	7.8				9.0	5.9	5.3	4.3	4.7	4.8
10	4.8	5.7					8.8	6.1	5.4	4.3	4.2	4.7
11	4.6	5.9			6.5	6.7	8.3	5.9	5.2	4.2	4.3	4.3
12	4.8	5.7					7.9	5.7	5.2	4.4	4.2	4.7
13	4.3	5.7					7.3	5.6	5.1	4.4	4.3	4.8
14	4.8	5.7		6.7			7.0	5.4	5.2	4.3	4.5	4.3
15	4.7	6.5				6.9	6.7	5.6	5.0	4.4	4.0	4.9
16	4.7	8.2				6.7	6.6	5.3	4.8	4.5	4.4	5.2
17	4.6	9.2	8.1			7.2	6.8	5.6	4.8	4.3	4.3	4.8
18	4.6	9.3			6.5	6.5	6.5	5.2	4.7	4.6	4.2	4.6
19	4.8	9.0				6.2	6.9	5.6	4.9	4.2	4.3	4.8
20	4.6	8.0				6.4	7.7	5.4	4.8	4.1	4.6	5.0
21	5.1	7.7		6.7		6.2	7.7	6.2	5.0	4.4	4.7	4.4
22	4.9	7.7				7.8	7.7	6.8	4.8	4.2	4.2	5.0
23	4.8	7.3				7.5	7.7	6.6	4.8	4.6	4.4	4.9
24	4.8	7.2	7.5			7.6	7.5	6.8	4.7	4.5	4.4	4.8
25	4.7	6.8			6.4	7.7	7.6	7.0	4.6	4.0	4.2	4.8
26	5.2	6.3				7.6	7.9	7.0	4.7	4.6	4.4	5.6
27	4.8	6.8				7.7	7.9	6.7	4.7	4.5	4.3	4.6
28	5.1	6.7		6.7		7.6	8.2	6.7	4.8	4.3	4.2	4.5
29	4.6	6.5				7.6	8.9	6.5	4.7	4.1	4.1	4.4
30	4.9	6.8				7.2	8.8	6.4	4.4	4.3	4.6	4.7
31	4.9		6.9			6.9		6.2		4.4	4.3	

Daily gage height, in feet, of Wisconsin River near Necedah, Wis., for the years ending Sept. 30, 1907-1914.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1910-11												
1	4.3	4.8	5.9				8.4	6.1	7.5	5.1	5.5	5.3
2	4.4	4.8	6.4	5.9			7.8	6.2	7.1	5.1	5.0	5.3
3	4.2	5.1					7.4	6.4	7.4	5.3	5.4	4.9
4	5.1	5.1					7.0	6.3	7.2	5.3	5.7	4.9
5	4.5	5.2					7.0	6.2	7.5	4.8	6.0	4.4
6	4.7	5.2			6.0	5.9	7.0	6.2	7.6	5.0	6.0	4.8
7	4.8	4.6					6.8	6.4	8.7	4.8	5.6	4.6
8	4.6	4.6					6.7	6.6	9.3	4.6	5.8	4.9
9	4.3	4.5		5.6			6.6	6.3	8.8	4.8	5.5	5.0
10	5.2	4.8					6.4	5.7	8.2	4.9	5.8	5.3
11	5.3	5.1					6.9	6.2	7.6	5.2	5.6	5.0
12	4.8	5.2	5.7			5.1	6.3	6.1	7.3	4.9	5.7	5.6
13	4.9	4.9			6.8	4.8	6.8	6.2	7.1	4.7	5.8	5.3
14	4.7	4.8			6.1	5.3	7.1	6.2	6.5	5.1	5.6	5.3
15	4.6	5.2			6.1	5.3	7.4	6.4	6.4	5.2	6.0	5.0
16	4.6	4.7		5.7	6.0	5.8	7.9	6.4	6.2	5.3	5.6	5.3
17	4.3	4.6			5.9	6.1	7.8	6.1	6.0	5.0	5.6	5.9
18	5.0	4.6			6.1	6.4	7.8	7.6	6.1	5.3	5.7	7.0
19	4.5	4.5	5.4		6.0	6.3	7.5	8.6	5.9	4.9	5.6	7.2
20	4.9	4.6			6.0	6.1	7.3	8.3	6.2	5.2	5.5	7.2
21	5.0	4.6			5.9	6.3	7.1	8.0	5.6	5.1	5.2	7.0
22	5.0	5.3			5.7	6.0	7.5	7.8	5.7	5.1	5.4	6.0
23	4.6	5.1		5.7	5.6	6.1	7.6	9.2	5.6	5.0	5.0	6.6
24	5.4	4.5			5.9	6.0	7.4	10.2	5.5	4.9	5.4	6.4
25	4.5	4.5			5.8	6.9	7.5	10.7	5.4	5.2	5.5	6.6
26	4.5	4.5	5.0		6.1	7.3	7.0	10.9	5.3	4.8	5.5	6.7
27	4.4	4.9			5.6	8.0	6.7	10.7	5.6	5.2	5.0	6.8
28	4.6	4.5				8.2	6.7	9.7	5.1	5.2	5.1	6.6
29	4.2	5.2				8.4	6.7	9.0	5.1	5.2	5.3	6.8
30	4.3	4.8		6.1		9.4	6.5	8.3	5.2	5.4	4.9	7.0
31	4.1					8.7		8.0		5.3	5.3	
1911-12												
1	6.8	8.2	8.9				7.0	9.6	10.8	5.6	8.0	8.6
2	7.8	8.0	9.2			7.2	7.8	8.8	9.8	5.4	7.5	9.2
3	8.1	7.8	9.1		7.4		8.0	8.7	8.9	5.1	7.3	10.9
4	8.6	7.3	8.6				8.2	8.2	8.5	5.2	6.9	13.4
5	9.1	7.2	8.7				8.6	8.0	8.0	5.0	6.6	15.5
6	10.0	8.2	8.8	8.1			9.5	7.9	7.8	5.7	6.7	14.9
7	11.1	7.1	8.7				9.9	8.8	7.6	4.7	6.5	13.4
8	12.4	7.2	8.6				10.7	9.5	7.1	5.4	6.2	12.4
9	13.6	7.4	8.6			7.0	11.5	9.8	7.1	5.4	6.1	11.5
10	16.8	7.6	8.7		7.3		12.0	9.5	6.5	5.3	7.1	10.3
11	15.3	7.7	6.9				11.6	8.7	6.8	5.2	8.5	9.2
12	13.9	7.9	7.4				10.6	8.2	6.7	5.2	10.0	9.0
13	12.3	8.1	8.3	8.1			10.0	8.1	6.0	5.4	11.7	8.5
14	11.3	7.9	9.2				9.7	8.4	6.2	5.8	12.6	8.1
15	10.3	7.8	10.3				9.4	8.2	5.9	5.3	12.5	7.7
16	9.9	7.3	10.5			6.9	9.2	7.8	6.1	5.4	11.4	7.6
17	9.8	6.9	9.9		7.4		9.7	7.8	5.6	6.1	9.9	7.4
18	10.4	6.5	9.1				9.6	8.0	6.2	5.9	9.1	7.4
19	12.0	6.4	8.7				9.3	7.9	5.6	5.8	8.7	7.2
20	13.5	6.5	8.4	7.6			9.4	7.9	5.8	5.7	9.0	7.5
21	13.7	7.0	7.9				8.4	8.1	5.8	5.6	9.0	7.3
22	12.8	6.8	7.6				8.3	7.9	5.8	5.4	8.9	7.3
23	11.7	7.0	7.5			7.0	8.4	8.5	5.5	4.9	8.7	7.2
24	10.8	6.9	7.7		7.2		9.8	9.0	5.0	6.7	8.3	7.0
25	9.9	7.0	7.2				10.9	9.5	5.7	9.9	7.8	6.9
26	9.5	6.7	7.0				11.0	9.8	5.3	13.4	7.8	6.8
27	9.3	6.7	7.4	10.4			11.1	9.8	5.6	14.3	7.4	6.8
28	9.6	6.7	7.6				9.5	9.3	5.4	14.4	7.1	6.6
29	9.4	6.6	8.3				9.8	9.5	5.5	12.5	7.7	6.6
30	9.0	9.4	8.5			6.7	10.1	10.7	5.7	9.8	8.0	6.5
31	8.3		8.8					11.3		8.5	8.2	



*Daily gage height, in feet, of Wisconsin River near Necedah, Wis., for the years ending Sept. 30, 1907-1914—(Concluded).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1912-13 (a)</b>												
1	6.6	5.8	5.3	7.3	6.6	6.5	8.6	8.2	10.0	6.3	9.2	5.2
2	6.4	5.8	5.5	7.1	-----	-----	9.6	8.1	10.1	6.0	8.4	4.9
3	6.3	5.8	6.0	7.0	-----	-----	11.1	7.7	9.6	6.0	6.9	5.5
4	6.0	5.6	6.2	6.9	-----	-----	12.0	7.4	8.3	5.8	7.3	5.2
5	6.1	5.8	7.0	-----	-----	-----	12.7	7.4	8.0	5.8	6.4	5.4
6	6.3	5.2	7.5	-----	-----	-----	13.7	7.4	7.6	6.2	5.9	5.3
7	5.9	5.8	7.7	-----	-----	-----	13.9	7.5	7.4	6.2	6.1	5.6
8	6.2	5.7	7.9	-----	6.4	6.5	13.6	8.4	7.2	6.4	6.0	5.0
9	6.1	5.7	6.6	-----	-----	-----	11.7	8.0	7.2	7.1	6.0	5.5
10	6.2	5.6	6.3	-----	-----	-----	11.1	7.8	6.9	7.4	6.1	5.6
11	6.0	5.4	6.6	6.9	-----	-----	10.1	7.7	7.6	7.6	5.9	5.7
12	6.2	5.8	7.9	-----	-----	-----	10.5	7.6	6.3	7.5	6.1	5.3
13	6.4	5.8	8.3	-----	-----	-----	10.6	7.3	6.2	7.5	5.9	5.3
14	6.2	5.7	8.5	-----	-----	-----	10.6	7.2	6.5	7.5	6.2	5.2
15	7.4	6.1	8.7	-----	-----	8.5	10.6	7.4	6.4	8.4	5.5	5.0
16	7.5	6.1	8.2	-----	6.4	9.7	10.6	7.1	6.2	7.8	5.6	5.2
17	7.2	6.0	8.3	-----	-----	10.6	10.6	7.7	6.7	7.6	5.7	4.9
18	7.1	5.9	8.5	6.7	-----	11.8	10.4	8.9	6.5	7.4	5.7	5.2
19	7.0	6.0	8.1	-----	-----	13.4	10.6	8.7	6.4	7.4	5.6	5.2
20	6.6	5.9	8.2	-----	-----	9.3	10.8	9.0	6.2	7.6	5.2	5.3
21	6.2	5.7	8.3	-----	-----	9.2	10.9	8.7	6.6	7.6	5.2	5.2
22	6.4	5.9	7.3	-----	6.4	9.0	10.6	8.6	7.0	7.5	5.4	5.1
23	6.4	5.8	8.1	-----	-----	9.8	9.9	9.9	7.2	7.4	5.5	5.3
24	6.0	5.8	7.9	-----	-----	9.8	9.8	10.6	6.8	6.7	5.0	5.8
25	6.1	6.2	7.8	6.5	-----	9.3	9.7	10.6	6.8	6.6	5.3	5.8
26	6.3	6.0	7.8	-----	-----	9.3	9.1	9.6	6.3	6.3	5.5	6.4
27	6.2	5.8	7.5	-----	-----	9.0	9.2	8.9	6.4	6.2	5.4	6.3
28	6.0	5.8	7.4	-----	-----	9.0	8.9	8.4	6.3	6.1	5.3	6.6
29	6.2	5.6	7.4	-----	-----	9.4	8.7	8.0	6.8	7.7	5.4	6.4
30	6.0	5.4	7.3	-----	-----	8.2	8.4	8.9	7.3	9.4	5.4	6.4
31	5.8	-----	7.6	-----	-----	8.0	-----	9.0	-----	9.8	5.3	-----
<b>1913-14</b>												
1	6.6	6.6	5.8	7.4	-----	-----	7.2	11.4	7.4	-----	-----	-----
2	6.5	6.2	6.0	-----	6.1	6.2	8.0	12.2	7.2	-----	-----	-----
3	6.4	6.4	6.1	7.4	-----	-----	8.0	12.2	7.1	-----	-----	-----
4	6.2	6.2	6.2	-----	-----	-----	8.2	11.4	6.9	-----	-----	-----
5	6.1	5.8	6.4	6.6	6.4	6.6	8.2	10.0	9.1	-----	-----	-----
6	5.8	5.6	6.2	-----	-----	-----	8.0	9.5	12.0	-----	-----	-----
7	6.1	5.8	6.1	-----	6.2	6.7	7.7	9.1	14.4	-----	-----	-----
8	5.9	5.7	6.3	7.3	-----	-----	7.1	8.8	15.4	-----	-----	-----
9	6.2	6.0	6.1	-----	5.8	6.2	7.0	8.8	14.0	-----	-----	-----
10	6.6	6.7	5.8	6.5	-----	-----	6.5	8.2	13.3	-----	-----	-----
11	6.4	7.0	5.6	-----	-----	-----	6.6	8.1	11.9	-----	-----	-----
12	6.2	5.4	5.5	6.1	6.2	6.3	6.3	7.8	10.7	-----	-----	-----
13	6.8	5.4	5.8	-----	-----	-----	6.2	8.1	8.95	-----	-----	-----
14	6.7	5.6	5.7	-----	6.4	6.7	6.2	7.8	8.5	-----	-----	-----
15	6.0	5.5	5.2	6.4	-----	-----	6.4	7.2	8.0	-----	-----	-----
16	6.4	5.6	5.6	-----	6.2	6.3	6.6	7.2	7.8	-----	-----	-----
17	6.4	5.8	5.5	6.5	-----	-----	6.7	7.1	7.5	-----	-----	-----
18	6.1	6.1	5.4	-----	-----	-----	7.2	7.0	7.0	-----	-----	-----
19	6.0	5.9	5.4	6.3	6.4	6.6	7.7	6.9	6.9	-----	-----	-----
20	5.9	5.6	5.2	-----	-----	-----	8.2	6.8	7.1	-----	-----	-----
21	6.3	5.6	5.1	-----	6.5	7.2	8.5	6.6	7.4	-----	-----	-----
22	5.9	5.3	5.0	6.4	-----	-----	9.1	6.6	7.3	-----	-----	-----
23	6.0	5.4	5.2	-----	6.2	6.8	8.9	7.1	7.4	-----	-----	-----
24	5.6	6.0	5.4	6.3	-----	-----	8.5	9.8	7.7	-----	-----	-----
25	5.5	6.2	5.3	-----	-----	-----	8.5	10.7	7.2	-----	-----	-----
26	5.7	6.2	5.2	6.1	6.2	5.8	8.2	10.3	7.2	-----	-----	-----
27	5.3	6.1	5.5	-----	-----	5.8	8.7	9.2	7.6	-----	-----	-----
28	5.4	6.0	5.4	-----	6.5	5.5	9.5	8.6	8.5	-----	-----	-----
29	5.7	5.9	7.0	5.7	-----	6.2	9.9	8.2	9.1	-----	-----	-----
30	6.1	6.2	7.4	-----	-----	5.8	10.4	8.0	10.1	-----	-----	-----
31	6.4	-----	7.4	6.3	-----	6.2	-----	7.6	-----	-----	-----	-----

(a) Michael Coughlin, observer for 1912.

NOTE:—Gage heights from Jan. 1, 1909, to Dec. 31, 1912 differ from those published in U. S. Geol. Survey Water-Supply Papers 265, 285, 305 and 325, having been corrected for error in chain length.

Discharge relation affected by ice as follows: About Jan. 1, to Mar. 12, 1907; Dec. 22, 1907, to Mar. 11, 1908; Dec. 9, 1908, to Mar. 17, 1909; Dec. 10, 1909, to Mar. 14, 1910; Dec. 3, 1910, to Mar. 11, 1911; Jan. 6, to Mar. 29, 1912; Dec. 2, 1912, to Mar. 15, 1913, and Dec. 23, 1913, to Mar. 31, 1913.

*Daily discharge, in second-feet, of Wisconsin River near Necedah, Wis.,  
for the years ending Sept. 30, 1903-1907.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1903</b>												
1							10,700	7,570	19,800	3,540	4,200	4,860
2							10,200	12,600	17,500	3,400	4,430	5,430
3							9,610	15,900	14,300	10,700	4,120	5,230
4							10,100	17,200	12,100	14,500	4,200	5,040
5							9,760	17,800	10,400	18,300	4,280	5,040
6							9,310	18,500	9,760	19,200	5,740	5,230
7							9,020	18,200	9,020	21,200	8,180	5,630
8							9,160	17,000	8,140	21,200	11,600	6,730
9							8,870	15,800	7,570	18,200	12,400	6,730
10						6,500	9,310	14,200	7,290	13,800	11,400	8,620
11						6,880	8,720	12,400	6,370	11,700	10,800	10,100
12						8,720	8,290	12,100	5,900	10,800	9,820	10,100
13						10,500	8,000	13,000	6,250	9,520	8,920	9,820
14						7,860	7,860	15,000	5,580	8,320	8,320	14,400
15						9,460	8,000	17,400	5,260	7,890	8,320	22,300
16						10,800	8,440	18,300	4,760	7,100	7,480	27,700
17						12,700	8,870	17,700	4,580	6,500	6,970	30,800
18						13,800	9,310	15,900	5,060	6,730	7,480	34,800
19						14,300	8,870	13,800	4,760	6,270	6,730	34,800
20						18,000	8,290	12,600	4,400	6,500	5,840	34,800
21						22,600	7,150	11,400	4,240	6,270	6,270	32,100
22						27,200	7,290	11,300	3,840	5,630	5,230	28,400
23						30,400	6,620	10,800	4,320	5,230	4,680	24,000
24						27,800	6,370	9,910	3,920	4,860	4,680	21,200
25						24,000	6,020	9,610	3,540	5,040	5,230	18,900
26						20,900	6,130	10,400	3,690	5,040	4,860	14,800
27						18,200	6,750	11,600	3,620	4,510	5,040	12,900
28						15,900	7,150	13,800	3,690	4,680	5,040	12,200
29						14,600	8,140	16,600	3,540	4,510	4,860	11,200
30						13,200	7,430	19,800	3,760	4,350	4,510	10,900
31						11,600		21,200		4,200	4,510	
<b>1903-4</b>												
1	9,520	5,840	5,630				8,200	17,800	22,300	7,300	2,810	3,460
2	8,030	5,530	6,970				7,300	16,000	18,400	7,900	3,240	3,460
3	8,620	5,840	8,920				7,900	15,100	15,700	7,900	3,690	3,460
4	8,620	5,940	9,520				9,100	13,600	14,200	7,300	3,460	3,460
5	9,370	5,530	8,620				8,200	12,400	13,600	7,010	3,240	2,400
6	13,400	5,330	8,620				8,800	11,800	15,400	7,300	3,240	5,900
7	16,000	5,040	8,030				9,400	10,600	18,100	6,440	2,400	7,300
8	15,600	5,430	8,320				10,000	10,600	19,900	6,170	2,600	6,170
9	16,300	5,140	7,750				10,900	10,600	19,900	6,720	3,460	5,640
10	18,500	5,040	7,480				12,100	12,100	17,800	7,300	3,690	5,640
11	18,500	4,950	7,220				14,800	16,900	15,400	7,600	4,630	4,630
12	17,000	5,040	6,500				17,800	19,900	13,300	8,800	4,630	5,640
13	15,500	5,040					17,800	19,900	11,800	9,700	4,880	4,630
14	13,400	5,040					16,600	18,100	10,900	9,400	4,630	5,130
15	12,100	5,140					14,500	16,600	10,000	7,900	4,630	5,380
16	11,200	4,950					13,300	16,000	8,800	6,170	5,640	3,690
17	10,900	5,140					11,500	15,400	9,100	5,900	3,920	4,390
18	9,980	4,350					10,300	13,900	8,500	5,130	4,150	4,630
19	9,070	4,350					10,900	12,400	7,900	5,900	3,920	6,170
20	9,220	4,510					10,900	11,500	7,010	5,130	3,920	5,640
21	9,070	4,680					11,500	10,600	6,170	5,380	3,920	3,460
22	7,890	4,600					11,500	10,000	5,900	4,630	3,240	3,690
23	7,480	4,430					10,900	9,700	7,010	3,920	4,150	3,460
24	7,480	4,860					11,200	9,400	5,640	3,460	3,460	3,240
25	7,220	4,860					12,400	10,900	6,440	2,810	3,690	3,580
26	6,730	4,600					16,300	12,700	5,640	3,460	3,690	3,460
27	6,615	4,510					19,300	16,600	6,720	3,690	3,920	8,500
28	6,380	4,770					21,100	20,200	5,900	3,460	6,170	10,600
29	6,500	4,510					20,500	25,400	6,720	3,240	3,020	10,600
30	6,050	5,230					19,900	28,700	6,440	3,460	3,920	9,400
31	5,840							27,300		3,240	3,240	

*Daily discharge, in second-feet, of Wisconsin River near Necedah, Wis., for the years ending Sept. 30, 1903-1907—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1904-5</b>												
1	8,200	9,700	3,460				35,400	6,300	7,900	10,300	5,130	6,170
2	7,750	9,100	3,460				35,400	6,720	7,600	10,300	4,630	6,440
3	7,010	8,200	3,460				29,700	6,720	7,600	10,900	4,390	7,010
4	6,720	8,500					27,700	6,440	7,300	10,900	4,390	6,440
5	9,400	7,900					25,400	6,440	11,500	10,900	5,380	6,720
6	6,440	7,600					24,100	7,900	13,300	12,700	4,630	6,720
7	6,170	6,720					25,000	8,200	21,400	14,200	4,880	8,050
8	7,300	6,720					25,400	8,500	28,200	15,700	8,200	7,010
9	7,660	8,200					23,200	9,100	61,800	14,500	9,100	5,640
10	8,500	6,720					20,200	9,400	93,300	13,300	9,700	5,380
11	13,600	6,170					18,100	9,400	77,500	11,200	8,500	5,130
12	18,700	4,390					16,300	10,900	30,800	10,600	7,900	4,630
13	25,900	5,130					15,400	13,300	25,400	9,400	8,500	4,880
14	33,800	5,130					14,200	13,900	23,600	8,200	7,600	5,130
15	30,800	5,380					13,600	13,300	22,300	8,500	7,010	5,130
16	25,400	5,900					12,400	14,200	19,600	7,900	6,170	4,630
17	19,300	5,130					11,800	16,300	17,500	7,300	6,440	4,880
18	16,600	4,630					10,900	17,800	16,900	7,900	6,170	5,130
19	15,400	3,460					9,700	17,800	17,200	7,300	5,900	9,100
20	13,600	3,920					8,500	17,500	22,300	7,300	5,380	10,600
21	12,100	3,920				3,920	8,200	16,300	27,700	7,300	5,130	13,000
22	12,400	4,630				3,920	8,200	14,800	27,300	6,720	5,640	13,600
23	13,900	4,880				3,920	7,900	13,300	21,400	6,170	5,640	13,600
24	13,900	4,630				4,630	7,600	12,400	17,800	5,640	5,130	11,800
25	13,300	3,690				5,380	7,300	11,500	14,800	5,770	5,640	10,000
26	13,300	5,130				8,800	6,440	10,000	13,300	6,440	6,170	8,800
27	12,100	4,150				9,700	6,860	9,700	12,400	5,130	4,630	7,900
28	11,200	3,460				13,300	6,440	9,400	11,800	4,150	3,920	6,440
29	10,900	3,920				16,300	6,300	8,500	10,600	4,630	5,900	6,170
30	10,600	3,920				20,500	6,170	8,800	9,400	4,150	5,640	6,440
31	9,400							8,200		4,630	5,640	
<b>1905-6</b>												
1	6,440	5,900	4,880				13,900	11,200	12,400	13,000	3,460	8,500
2	5,640	5,130	4,150				17,900	11,500	11,800	11,300	3,460	8,800
3	5,380	4,630	4,150				16,900	11,300	10,900	10,600	3,460	6,170
4	5,130	4,880	4,630				17,800	10,900	10,600	11,900	3,690	6,440
5	4,880	5,130	5,380				19,000	11,200	10,000	12,400	3,690	7,010
6	4,880	4,880	5,900				19,600	11,500	7,600	11,800	3,240	7,750
7	4,880	4,880	8,800				24,100	11,500	6,440	10,000	4,630	7,150
8	4,880	4,880	7,900				30,800	11,900	10,600	8,650	3,690	6,720
9	4,390	5,130	7,010				13,700	10,900	13,700	7,600	4,030	6,170
10	4,630	5,130	14,200				30,200	10,400	14,600	7,450	3,460	4,630
11	3,920	5,380	14,800				30,800	9,700	14,200	7,300	3,800	5,900
12	3,690	5,130	13,600				33,800	9,400	13,600	6,440	3,920	4,390
13	3,240	5,130	11,500				30,700	9,100	11,800	6,440	3,920	3,690
14	3,240	5,130	11,500				30,000	8,650	10,600	5,900	4,630	3,690
15	4,150	4,630	11,200				30,800	10,900	9,100	5,380	3,920	3,800
16	4,150	4,630	11,200				35,400	12,700	8,800	5,130	3,800	3,690
17	4,630	4,150	11,800				35,400	11,900	8,500	4,150	3,920	4,270
18	4,630	4,390	10,300				30,200	11,800	7,300	4,630	4,030	5,640
19	5,380	4,390	10,300				26,300	10,100	7,600	4,630	3,460	4,390
20	5,380	4,630	10,300				22,700	10,000	6,170	4,630	3,240	3,690
21	5,900	4,390	10,000				21,400	8,950	7,300	4,750	4,150	3,920
22	7,300	3,690	9,700				20,800	8,500	8,800	4,750	3,460	4,510
23	8,500	3,690	9,700				20,200	8,200	12,700	4,390	3,690	4,630
24	9,400	3,690	8,800				18,700	7,010	13,300	4,030	6,300	4,390
25	8,800	3,460	7,300				17,200	7,600	11,500	4,150	8,500	5,380
26	8,500	4,150	7,300				15,800	7,600	10,300	4,030	9,100	5,000
27	8,200	4,150	9,700				14,600	7,600	11,500	3,920	8,500	4,630
28	7,600	5,130	7,900				13,600	10,000	13,300	4,390	10,300	4,270
29	7,010	4,630	7,600				13,000	14,600	13,600	2,810	12,100	4,390
30	7,010	4,880	7,300				12,100	14,500	14,200	4,150	10,900	4,270
31	6,440		6,720					13,900		3,020	9,850	

Daily discharge, in second-feet, of Wisconsin River near Necedah, Wis.,  
for the years ending Sept. 30, 1903-1907—(Concluded).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1906												
1	3,460	8,350	13,900									
2	4,390	7,600	12,100									
3	3,460	8,500	9,400									
4	3,020	8,500	9,700									
5	3,460	7,010	9,700									
6	3,690	6,720	8,200									
7	3,580	6,440	7,900									
8	2,600	5,260	7,900									
9	3,580	4,880	7,900									
10	3,690	4,150	6,720									
11	3,350	5,770	8,200									
12	3,460	6,170	8,500									
13	3,020	6,170	7,010									
14	4,150	4,630	6,170									
15	3,350	4,630	6,040									
16	4,270	4,630	6,440									
17	3,920	4,390										
18	3,460	4,390										
19	3,130	5,640										
20	3,460	7,600										
21	4,150	7,450										
22	5,260	7,450										
23	6,440	5,640										
24	5,770	4,880										
25	5,770	5,380										
26	6,440	5,380										
27	9,400	7,900										
28	9,700	9,700										
29	9,100	12,400										
30	9,400	15,100										
31	8,200											

NOTE:—Daily discharge for 1903 and 1904 computed from a poorly defined curve; for 1905 and 1906 from a fairly-well defined rating curve. Daily discharge table for 1903 to 1905 differs from those published in U. S. Geol. Survey Water-Supply Papers 98, 128, and 171 on account of the use here of three significant figures.

Monthly discharge of Wisconsin River near Necedah, Wis.,  
for the years ending Sept. 30, 1903-1907.

[Drainage area, 5,800 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1903						
January.....			2,600			
February.....			2,550			
March.....	30,400		11,900			
April.....	10,700	6,020	8,320			
May.....	21,200	7,570	14,500			
June.....	19,800	3,540	6,900			
July.....	21,200	3,400	9,020			
August.....	12,400	4,120	6,650			
September.....	34,800	4,860	15,800			
1903-4						
October.....	18,500	5,840	10,600			
November.....	5,940	4,350	5,010			
December (1-12) (a).....	9,520	5,630	7,800			
January.....						
February.....						
March.....						
April.....	21,100	7,300	12,800			
May.....	28,700	9,400	15,200			
June.....	22,300	5,640	11,400			
July.....	9,700	2,810	5,930			
August.....	6,170	2,400	3,840			
September.....	10,600	2,400	5,230			
1904-5						
October.....	33,800	6,170	13,600			
November.....	9,700	3,460	5,700			
December.....						
January.....						
February.....						
March (21-30).....	20,500	3,920	9,040			
April.....	35,400	6,170	15,800			
May.....	17,800	6,300	11,100			
June.....	93,300	7,300	23,300			
July.....	15,700	4,150	8,710			
August.....	9,700	3,920	6,100			
September.....	13,600	4,630	7,420			
1905-6						
October.....	9,400	3,240	5,750			
November.....	5,900	3,460	4,670			
December.....	14,800	4,150	8,890			
January.....						
February.....						
March.....						
April.....	35,400	12,100	22,600			
May.....	14,600	7,010	10,500			
June.....	14,600	6,170	10,800			
July.....	13,000	2,810	6,570			
August.....	12,100	3,240	5,240			
September.....	8,800	3,690	5,140			
1906						
October.....	9,700	2,600	4,840			
November.....	15,100	4,150	6,760			
December (1-19).....	13,900	6,040	8,160			

(a) Dec. 13-31, river frozen.

NOTE:—Monthly discharge tables January, 1903, to December, 1906, differ from those published in U. S. Geol. Survey Water-Supply Papers 98, 128, 171 and 207 by the use here of three significant figures.

WISCONSIN RIVER AT MUSCODA, WIS.

Location.—At highway bridge 1 mile north of the village of Muscoda, Wis. Eagle Mill Creek enters from the right about half a mile below the station. Underwood Creek enters from the left 4½ miles above the station.

**Records available.**—December 21, 1902, to December 31, 1903, and December 4, 1913, to September 30, 1914. Records for 1902 and 1903 published also in Water-Supply Papers 83 and 98. Gage heights for November 1, 1908, to December 31, 1912 published in U. S. Weather Bureau bulletin Daily River Stages, Parts 9, 10, and 11.

**Drainage area.**—10,300 square miles.

**Gage.**—Chain gage fastened to plate girder on downstream side of bridge; read twice daily, morning and evening, to half tenths; limits of use: tenths throughout entire range in stage during the year ending September 30, 1914. Elevation of zero of present gage is approximately 12.62 feet above that of gage maintained December 20, 1902, to December 31, 1903; elevation of gage during the period November, 1908, to December 3, 1913, as read and published by the U. S. Weather Bureau was approximately the same as during the period December 4, 1913, to September 30, 1914. Elevation of present gage is approximately 666.2 feet above sea level.

**Control.**—No well-defined control at this station; rock outcrops for about 100 feet under right-hand end of the bridge; rest of the channel is sand and shifts during medium and high stages.

**Discharge measurements.**—Made from downstream side of bridge.

**Floods.**—Levels run to a stake which was placed by Wm. Hessler, observer, at the crest of a flood that occurred during October, 1911, gave a stage of 10.4 feet compared with present datum of gage; old residents report that the crest of a flood during 1888 marked a stage of approximately 1 foot higher than that of October, 1911.

**Winter flow.**—Discharge relation affected by ice; flow determined from discharge measurements made though the ice.

**Regulation.**—Nearest power plant above the station is at Prairie du Sac, about 40 miles distant; no diurnal fluctuation at this station caused by operation of this plant.

**Accuracy.**—Records for year ending September 30, 1914, are good.

*Discharge measurements of Wisconsin River at Muscoda, Wis.,  
during the years ending Sept. 30, 1903–1904; 1914.*

Date	Made by	Gage height	Discharge
<b>1902-3</b>			
Dec. 20	L. R. Stockman	15.00	6,920
Jan. 10 (a)	L. R. Stockman	14.85	4,810
Jan. 28 (a)	L. R. Stockman	14.65	4,650
Mar. 26	L. R. Stockman	19.70	38,200
Apr. 21	L. R. Stockman	16.25	14,200
July 2	A. C. Lootz	15.20	5,870
<b>1903-4</b>			
Oct. 9	L. R. Stockman	18.33	19,000
<b>1913-14</b>			
Dec. 5	Canfield and Beckman	2.28	7,320
Feb. 4 (b)	Beckman and Steller	2.41	4,650
Apr. 3	Beckman and Rather	2.47	8,590
May 4	H. C. Beckman	3.78	13,300
June 12	Hoyt and Gross	8.37	43,300
June 18	Beckman and Rather	4.48	16,100
Aug. 19-20	Hoyt and Dillon	7.91	6,150

(a) River partly frozen.

(b) Complete ice cover above bridge; some open water below gage



*Daily gage height, in feet, of Wisconsin River at Muscoda, Wts.,  
for the years ending Sept. 30, 1903-1904; 1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1903</b>												
1				14.75	14.90	15.85	18.05	15.97	18.68	15.23	15.40	16.78
2				14.85	14.90	15.80	17.50	16.07	18.95	15.18	15.43	16.68
3				14.90	14.95	15.70	17.25	15.98	19.28	15.25	15.30	16.65
4				14.90	15.00	15.60	17.02	16.35	19.55	15.18	15.38	16.83
5				14.90	14.90	15.50	16.75	17.15	19.78	15.20	15.53	16.85
6				14.90	14.90	15.40	16.70	17.70	19.52	17.00	15.68	16.73
7				14.80	14.85	15.55	16.60	17.95	18.50	17.90	15.55	16.53
8				14.70	14.85	15.90	16.50	18.07	17.75	18.40	15.58	16.50
9				14.65	15.00	15.70	16.32	18.22	17.42	18.60	16.05	16.63
10				14.75	15.00	15.40	16.22	18.40	17.07	18.90	16.75	16.85
11				14.65	15.05	15.20	16.20	18.40	16.85	19.10	17.33	16.98
12				14.60	15.15	15.00	16.22	18.20	16.65	19.08	17.43	17.12
13				14.65	15.20	15.05	16.30	17.80	16.47	18.35	17.28	17.48
14				14.70	15.15	15.55	16.22	17.50	16.22	17.63	17.15	17.83
15				14.65	15.05	15.75	16.12	17.45	16.15	17.30	17.23	17.75
16				14.75	15.00	16.30	16.00	17.50	16.05	16.95	17.47	17.83
17				14.75	14.85	16.50	16.00	17.90	15.87	16.87	17.47	18.38
18				14.70	14.70	16.65	16.10	18.15	15.82	17.45	17.37	18.90
19				14.75	14.70	16.95	16.20	18.25	15.65	16.92	17.13	19.30
20				14.80	14.65	17.45	16.30	18.40	15.65	16.65	17.05	19.80
21			15.05	14.70	14.70	17.85	16.35	18.20	15.73	16.45	16.95	20.80
22			15.00	14.75	14.65	17.93	16.30	18.00	15.63	16.25	16.70	22.23
23			15.05	14.70	14.70	18.05	16.12	17.45	15.53	16.17	16.53	22.70
24			15.05	14.80	14.75	18.35	16.00	17.30	15.45	16.05	16.30	22.43
25			14.85	14.70	14.75	18.90	15.90	17.45	15.40	15.85	16.23	22.50
26			14.80	14.75	14.75	19.72	15.78	17.60	15.43	15.65	16.23	21.38
27			14.70	14.85	14.95	20.50	15.70	17.75	15.30	15.58	16.43	20.70
28			14.55	14.85	15.90	20.37	15.62	17.95	15.13	15.60	16.65	19.95
29			14.55	14.95		19.80	15.67	18.20	15.10	15.58	17.08	19.10
30			14.75	14.80		19.27	15.87	18.25	15.23	15.48	17.08	18.35
31			14.75	14.90		18.65		18.40		15.45	16.98	
<b>1903-4</b>												
1	18.05	16.52	16.33									
2	17.85	16.42	16.25									
3	17.75	16.40	16.25									
4	17.32	16.32	16.22									
5	17.30	16.32	16.22									
6	17.32	16.30	16.20									
7	17.47	16.25	16.35									
8	17.87	16.17	16.35									
9	18.40	16.10	16.40									
10	18.60	16.10	16.38									
11	18.60	16.20	16.30									
12	18.65	16.20	16.32									
13	18.85	16.12	16.32									
14	18.90	16.10										
15	19.00	16.10	16.15									
16	18.72	16.05	16.15									
17	18.35	16.10	16.25									
18	18.05	16.15	16.28									
19	17.90	16.10	16.42									
20	17.75	16.32	15.62									
21	17.47	17.00	15.62									
22	17.37	17.05	15.72									
23	17.27	17.25	15.75									
24	17.17	17.30	15.78									
25	17.00	17.27	15.72									
26	16.87	17.12	15.65									
27	16.72	16.47	16.40									
28	16.67	16.40	16.40									
29	16.60	16.33	16.40									
30	16.55	16.30	16.40									
31	16.55		16.40									

NOTE:—See "Gage" in station description.

Daily gage height, in feet, of Wisconsin River at Muscoda, Wis.,  
for the years ending Sept. 30, 1903-1904; 1914.—(Concluded).

[Wm. Hessler, observer]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1913-14												
1-----				1.7	2.5	2.8	2.3	4.5	4.0	3.6	2.0	2.5
2-----				1.6	2.6	2.7	2.4	4.8	3.7	4.3	2.1	2.6
3-----				1.9	2.6	2.8	2.6	5.1	3.6	4.6	1.9	2.4
4-----			2.4	1.8	2.5	2.6	2.8	5.3	3.3	4.6	2.0	2.6
5-----			2.2	1.7	2.4	2.6	3.3	5.7	3.3	5.2	1.9	2.6
6-----			2.3	1.8	2.4	2.6	3.4	6.0	3.2	5.2	1.9	2.6
7-----			2.4	1.9	2.1	2.8	3.6	6.4	3.3	5.2	1.8	2.5
8-----			2.4	1.9	2.2	2.8	3.4	6.4	4.0	5.4	1.8	2.5
9-----			2.2	1.8	2.3	2.6	3.4	5.3	4.7	5.0	1.6	2.3
10-----			2.3	1.9	2.6	2.8	3.2	4.7	5.4	4.5	1.8	2.6
11-----			2.0	1.8	2.4	2.6	3.0	4.5	6.8	3.7	1.6	2.3
12-----			2.1	1.9	2.5	2.8	2.8	4.4	8.3	3.7	1.6	2.2
13-----			2.2	2.6	2.6	2.6	2.7	4.1	8.5	3.4	1.4	2.0
14-----			2.1	3.0	2.5	2.7	2.5	3.8	8.0	3.3	1.5	2.0
15-----			2.1	2.9	2.6	2.8	2.6	3.9	7.5	3.0	1.6	2.3
16-----			1.9	3.0	2.5	2.6	2.4	3.6	6.6	3.0	1.7	2.4
17-----			2.1	3.0	2.6	2.5	2.5	3.5	5.6	2.9	1.5	2.5
18-----			1.8	3.0	2.6	2.0	2.4	3.2	4.4	3.0	1.6	2.7
19-----			1.9	3.1	2.7	1.6	2.5	3.0	4.1	2.9	1.8	2.8
20-----			1.9	2.7	2.7	2.0	2.6	2.8	3.7	3.0	2.0	3.1
21-----			1.8	2.6	2.5	2.1	2.8	2.8	3.4	2.8	1.8	3.2
22-----			1.8	2.6	2.6	2.2	3.2	2.7	3.3	2.7	2.0	3.4
23-----			1.5	2.6	2.6	2.1	3.4	2.7	3.5	2.4	1.9	3.2
24-----			1.5	2.5	2.6	2.1	3.6	2.6	3.4	2.5	2.0	3.2
25-----			1.5	2.4	2.6	2.2	4.1	2.6	3.4	2.4	2.0	3.1
26-----			1.5	2.1	2.5	2.4	4.0	3.4	3.3	2.3	2.2	2.9
27-----			1.5	2.4	2.5	2.3	4.0	4.3	3.6	2.2	2.0	2.5
28-----			1.6	2.5	2.6	2.3	3.8	4.6	3.4	2.2	2.1	2.4
29-----			1.6	2.5		2.3	3.9	4.9	3.4	2.0	2.1	2.2
30-----			1.5	2.6		2.3	4.2	4.7	3.4	2.0	2.3	2.4
31-----			1.5	2.6		2.0		4.4		2.0	2.4	

Note:—Discharge relation probably affected by ice about Dec. 1 to Mar. 15.



Daily discharge, in second-feet, of Wisconsin River at Muscoda Wis.,  
for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1							7,620	16,500	14,400	12,800	6,510	8,400
2							8,010	17,700	13,200	15,700	6,870	8,790
3							8,790	19,000	12,800	16,900	6,160	8,010
4							9,570	19,900	11,600	16,900	6,510	8,790
5							11,600	21,900	11,600	19,400	6,160	8,790
6							12,000	23,600	11,200	19,400	6,160	8,790
7							12,800	26,200	11,600	19,400	5,830	8,400
8							12,000	26,200	14,400	20,400	5,830	8,400
9							12,000	19,900	17,800	18,600	5,250	7,620
10							11,200	17,300	20,400	16,500	5,830	8,790
11							10,400	16,500	29,300	13,200	5,250	7,620
12							9,570	16,100	42,800	18,200	5,250	7,240
13							9,180	14,900	44,700	12,000	4,780	6,510
14							8,400	13,600	39,900	11,600	5,000	6,510
15							8,790	14,000	35,300	10,400	5,250	7,620
16						8,790	8,010	12,800	27,700	10,400	5,530	8,010
17						8,400	8,400	12,400	21,400	9,970	5,000	8,400
18						6,510	8,010	11,200	16,100	10,400	5,250	9,180
19						5,250	8,400	10,400	14,900	9,970	5,830	9,570
20						6,510	8,790	9,570	13,200	10,400	6,510	10,800
21						6,870	9,570	9,570	12,000	9,570	5,830	11,200
22						7,240	11,200	9,180	11,600	9,180	6,510	12,000
23						6,870	12,000	9,180	12,400	8,010	6,160	11,200
24						6,870	12,800	8,790	12,000	8,400	6,510	11,200
25						7,240	14,900	8,790	12,000	8,010	6,510	10,800
26						8,010	14,400	12,000	11,600	7,620	7,240	9,970
27						7,620	14,400	15,700	12,800	7,240	6,510	8,400
28						7,620	13,600	16,900	12,000	7,240	6,870	8,010
29						7,620	14,000	18,100	12,000	6,510	6,870	7,240
30						7,620	15,300	17,300	12,000	6,510	7,620	8,010
31						6,510		16,100		6,510	8,010	

NOTE:—Daily discharge computed from a rating curve well defined between 5,830 and 16,500 second-feet (gage heights, 1.8 and 4.5 feet) and fairly well defined between 16,910 and 44,690 second-feet (gage heights, 4.6 and 8.5 feet).  
Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, as follows: Dec. 1-31, 6,680 second-feet; Jan. 1-31, 5,380 second-feet; Feb. 1, 28, 5,000 second-feet; Mar. 1 15, 7,630 second-feet.

Monthly discharge of Wisconsin River at Muscoda, Wis.,  
for the year ending Sept. 30, 1914.

[Drainage area, 10,300 square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
December			6,680	0.649	0.75	D
January			5,380	.522	.60	D
February			5,000	.485	.50	D
March			7,420	.720	.83	C
April	15,300	7,620	10,900	1.06	1.18	A
May	26,200	8,790	15,500	1.50	1.73	B
June	44,700	11,200	18,100	1.76	1.96	A
July	20,400	6,510	12,000	1.17	1.35	A
August	8,010	4,780	6,110	.593	.68	B
September	12,000	6,510	8,810	.855	.95	A

**TOMAHAWK RIVER NEAR BRADLEY, WIS.**

**Location.**—Five miles north of Bradley, Wis.,  $3\frac{1}{2}$  miles southeast of Cassian, Wis., and about 8 miles above the mouth of the river.

**Records available.**—September 18 to September 30, 1914.

**Drainage area.**—422 square miles.

**Gage.**—Standard chain gage fastened to cantilever arm on right bank of river; read to quarter tenths, morning and evening; limits of use: hundredths below 3.0 feet, half tenths from 3.0 to 4.0 feet, and tenths above 4.0 feet.

**Control.**—Heavy gravel; not likely to shift. Logs may collect at this point during Spring.

**Discharge measurements.**—Made from cable about half a mile below the gage.

**Winter flow.**—Discharge relation will be affected by ice.

**Regulation.**—Flow is controlled by operation of storage reservoirs of the Wisconsin Valley Improvement Co., situated above the gage.

Data insufficient for estimates of discharge.

*Discharge measurements of Tomahawk River near Bradley, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
June 23 (a).....	G. H. Canfield.....	-----	610
Sept. 18.....	H. C. Beckman.....	3.45	639

(a) Made from highway bridge 900 feet below the gage which was not installed until Sept. 18.

Daily gage height, in feet, of Tomahawk River near Bradley, Wis.,  
for the year ending Sept. 30, 1914.  
[Frank Sutherland, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												3.4
19												3.4
20												3.3
21												3.25
22												3.2
23												3.15
24												3.1
25												3.05
26												2.98
27												2.89
28												2.82
29												2.78
30												2.71
31												

PRAIRIE RIVER NEAR MERRILL, WIS.

- Location.**—At highway bridge  $4\frac{1}{2}$  miles northeast of Merrill, Wis., and about  $5\frac{1}{2}$  miles above the mouth of the river. Haymeadow Creek enters from the left about 5 miles above the station.
- Records available.**—January 18, to September 30, 1914.
- Drainage area.**—164 square miles.
- Gage.**—Chain gage attached to downstream side of bridge; read twice daily, morning and evening, to quarter tenths; limits of use: hundredths below 2.0 feet, half-tenths between 2.0 and 3.0 feet, and tenths above 3.0 feet.
- Control.**—Probably permanent except during extreme high stages.
- Discharge measurements.**—At low stages made by wading; at medium and high stages from highway bridge to which gage is fastened.
- Winter flow.**—Discharge relation affected by ice; discharge determined from measurements made through the ice.
- Regulation.**—None.
- Accuracy.**—Rating curve fairly well-defined; records probably good.

*Discharge measurements of Prairie River near Merrill, Wis., during  
the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
Jan. 17 (a).....	H. C. Beckman.....	1.81	88.5
Feb. 11 (b).....	O. A. Steller.....	1.81	88.6
Mar. 20 (c).....	H. C. Beckman.....	1.91	99
Apr. 22 (d).....	H. C. Beckman.....	3.76	762
May 4.....	H. C. Beckman.....	3.20	539
Sept. 12.....	G. H. Canfield.....	2.02	142

(a) Measurement made partly from bridge and partly from ice. Small amount of ice at control.

(b) About 50 per cent ice cover at control.

(c) Measurement made from bridge; small ice cover at control.

(d) No ice present.

*Daily gage height, in feet, of Prairie River near Merrill, Wis.,  
for the year ending Sept. 30, 1914.*

[G. H. Bell, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1.....					1.85	1.84	2.6	4.3	2.15	3.5	1.79	2.15
2.....					1.82	1.80	2.55	3.4	2.0	3.4	1.78	2.2
3.....					1.84	1.84	2.45	3.3	2.0	3.3	1.78	2.35
4.....					1.79	1.85	2.5	3.2	3.2	3.0	1.78	2.35
5.....					1.80	1.85	2.4	3.1	3.5	2.85	1.75	2.3
6.....					1.82	1.85	2.3	2.8	3.4	2.6	1.75	2.2
7.....					1.82	1.85	2.2	2.9	3.3	2.5	1.75	2.1
8.....					1.81	1.85	2.2	2.8	3.1	2.35	1.74	2.1
9.....					1.80	1.79	2.0	2.7	2.8	2.2	1.72	2.05
10.....					1.82	1.75	2.1	2.7	2.65	2.1	1.92	2.0
11.....					1.81	1.78	2.0	2.7	2.4	1.97	1.91	2.0
12.....					1.82	1.76	1.98	2.7	2.2	1.91	1.89	2.0
13.....					1.82	1.85	2.05	2.5	2.0	2.4	1.84	2.1
14.....					1.82	1.88	2.15	2.5	2.0	2.3	1.89	2.55
15.....					1.82	1.90	2.25	2.3	2.0	2.25	1.84	2.6
16.....					1.82	1.99	2.2	2.3	2.0	2.15	1.82	2.7
17.....				1.81	1.85	1.96	2.2	2.2	2.0	2.1	1.86	2.8
18.....				1.80	1.85	1.91	2.2	2.15	1.9	1.99	1.96	2.8
19.....				1.81	1.85	1.85	3.4	2.1	2.05	2.0	2.05	2.75
20.....				1.82	1.85	1.75	3.4	2.1	2.2	1.99	2.15	2.6
21.....				1.80	1.85	1.78	3.4	2.75	2.2	1.95	2.2	2.4
22.....				1.76	1.85	1.78	2.9	3.9	2.3	1.90	2.2	2.35
23.....				1.80	1.85	1.74	1.90	3.7	2.3	1.88	2.4	2.25
24.....				1.79	1.85	1.82	2.05	3.6	2.5	1.86	2.7	2.2
25.....				1.75	1.85	2.05	2.3	3.4	2.5	1.84	2.7	2.15
26.....				1.78	1.85	2.05	2.95	2.8	2.5	1.81	2.5	2.1
27.....				1.84	1.89	2.1	3.3	2.65	2.75	1.81	2.35	2.0
28.....				1.81	1.89	1.98	3.	2.6	2.8	1.84	2.2	2.0
29.....				1.90		2.1	4.5	2.45	3.3	1.89	2.1	1.99
30.....				1.91		2.75	4.6	2.35	3.3	1.85	2.1	1.94
31.....				86		2.7		2.25		1.81	2.0	

NOTE:—Discharge relation affected by ice about Jan. 17 to Mar. 31.

*Daily discharge, in second-feet, of Prairie River near Merrill, Wis.,  
for the year ending Sept. 30, 1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1							313	1,010	172	655	102	172
2							296	614	137	614	101	184
3							261	574	137	574	101	228
4							278	535	535	458	101	228
5							244	496	655	402	97	212
6							212	384	614	313	97	184
7							184	421	574	278	97	159
8							184	384	496	228	96	159
9							137	348	384	184	93	148
10							159	348	330	159	122	137
11							137	348	244	131	120	137
12							133	348	184	120	116	137
13							148	278	137	244	109	159
14							172	278	137	212	116	296
15							198	212	137	198	109	313
16							184	212	137	172	106	348
17							184	184	137	159	112	384
18							184	172	118	135	129	384
19							614	159	148	137	148	366
20							614	159	184	135	172	313
21							614	366	184	128	184	261
22							421	825	212	118	184	228
23							118	738	212	115	244	198
24							148	696	278	112	348	184
25							212	614	278	109	348	172
26							440	384	278	104	278	159
27							574	330	366	104	228	137
28							696	313	384	109	184	137
29							1,110	261	574	116	159	135
30							1,160	228	574	110	159	126
31								198		104	137	

**NOTE:**—Daily discharge computed from a rating curve fairly-well defined between 103 and 870 second-feet (gage heights 1.8 and 4.0 feet).

Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, as follows: Jan. 17-31, 88 second-feet; Feb. 1-10, 87 second-feet; Feb. 11-20, 86 second-feet; Feb. 21-28 78 second-feet; Mar. 1-10, 72 second-feet; Mar. 11-20, 84 second-feet; Mar. 21-31, 165 second-feet.

*Monthly discharge of Prairie River near Merrill, Wis.,  
for the year ending Sept. 30, 1914.*

[Drainage area, 164 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
January (17-31)			88.0	0.537	0.30	C
February			84.1	.513	.53	C
March			112.	.683	.79	C
April	1,160	118	344.	2.10	2.34	A
May	1,010	159	401.	2.45	2.82	B
June	655	118	298.	1.82	2.03	A
July	655	104	217.	1.32	1.52	A
August	348	93	152.	.927	1.07	B
September	384	126	213.	1.30	1.45	A

**LITTLE RIB RIVER NEAR WAUSAU, WIS.**

**Location.**—At second highway bridge, above the mouth about  $3\frac{1}{2}$  miles west of Wausau, Wis., and 1 mile above the junction with the Big Rib River.

**Records available.**—January 10 to September 30, 1914.

**Drainage area.**—76 square miles.

**Gage.**—Chain gage fastened to downstream side of highway bridge; read twice daily, morning and evening, to quarter tenths; limits of use: hundredths below 2.0 feet, half tenths between 2.0 and 3.0 feet, and tenths above 3.0 feet.

**Control.**—Heavy gravel; free from vegetation. Probably permanent.

**Discharge measurements.**—Made from downstream side of bridge during high water; at low and medium stages by wading.

**Regulation.**—None.

**Accuracy.**—Records are excellent except for periods when ice is present.

*Discharge measurements of Little Rib River near Wausau, Wis., during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge	Date	Made by	Gage height	Discharge
		Feet	Sec.-feet			Feet	Sec.-feet
Jan. 9 (a)...	H. C. Beckman...	1.23	7.5	May 5.....	H. C. Beckman ..	2.24	129.
Feb. 9 (b)...	O. A. Steller.....	1.42	8.2	June 5.....	W. G. Hoyt.....	6.15	764.
Mar. 21 (c)...	H. C. Beckman....	1.48	24.	Sept. 3.....	W. G. Hoyt.....	1.72	52.
Apr. 21 (d)...	H. C. Beckman....	2.15	107.				

- (a) Small amount of ice at control
- (b) Complete ice cover at control.
- (c) Ice at measuring section, open at control.
- (d) No ice at control.

*Daily gage height, in feet, of Little Rib River near Wausau, Wis., for the year ending Sept. 30, 1914.*

[Harry Hartwig, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1.....					1.62	1.29	2.6	2.75	1.42	3.4	1.22	4.2
2.....					1.48	1.26	3.2	2.45	1.36	3.1	1.21	2.05
3.....					1.42	1.28	2.45	2.15	1.64	2.2	1.20	1.68
4.....					1.39	1.25	2.1	2.45	1.95	1.95	1.20	1.56
5.....					1.42	1.24	1.88	2.25	5.4	1.82	1.19	1.50
6.....					1.38	1.25	1.72	2.15	3.7	1.72	1.18	1.52
7.....					1.38	1.26	1.88	1.98	5.3	1.64	1.18	1.48
8.....					1.36	1.25	1.68	1.86	3.6	1.55	1.18	1.40
9.....					1.42	1.22	1.84	1.76	2.6	1.49	1.18	1.35
10.....				1.12	1.48	1.22	1.60	1.74	2.2	1.44	1.24	1.42
11.....				1.21	1.48	1.22	1.58	1.72	2.0	1.41	1.31	1.69
12.....				1.24	1.45	1.21	1.62	1.78	1.86	1.41	1.25	1.51
13.....				1.28	1.42	1.25	2.1	1.64	1.78	1.72	1.21	1.56
14.....				1.27	1.39	1.36	1.92	1.55	1.72	1.54	1.20	2.55
15.....				1.22	1.4	3.4	2.1	1.48	1.80	1.41	1.19	2.7
16.....				1.21	1.44	4.4	2.2	1.46	1.65	1.36	1.24	2.1
17.....				1.24	1.32	3.4	2.15	1.42	1.55	1.32	1.32	1.84
18.....				1.21	1.35	2.35	2.15	1.38	1.48	1.30	1.39	1.75
19.....				1.21	1.34	2.0	2.8	1.36	1.86	1.31	1.65	1.65
20.....				1.22	1.3	1.84	2.35	1.32	1.72	1.30	1.51	1.58
21.....				1.21	1.31	1.52	2.1	2.1	1.65	1.26	1.36	1.54
22.....				1.24	1.29	1.38	1.98	4.6	1.68	1.25	1.30	1.54
23.....				1.24	1.29	1.48	1.88	2.75	1.55	1.26	1.34	1.54
24.....				1.26	1.29	1.38	1.82	2.2	1.82	1.26	1.54	1.51
25.....				1.26	1.24	2.75	2.9	2.1	1.78	1.26	1.34	1.54
26.....				1.28	1.26	3.9	2.5	1.92	1.60	1.24	1.20	1.48
27.....				1.26	1.25	2.05	2.15	1.92	3.50	1.26	1.25	1.42
28.....				1.25	1.25	1.95	4.1	1.74	3.6	1.30	1.25	1.41
29.....				1.24		2.8	5.7	1.62	2.3	1.29	1.24	1.38
30.....				1.58		5.9	3.6	1.54	1.95	1.24	1.22	1.35
31.....				1.76		2.75		1.46		1.24	1.36	

(a) Gage height at 6:00 p. m. 9.85 feet.  
NOTE:—Discharge relation affected by ice about Jan. 22 to Mar. 14.

*Daily discharge, in second-feet, of Little Rib River near Wausau, Wis.,  
for the year ending Sept. 30, 1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1							176	200	20	304	8	432
2							272	154	16	256	8	96
3							154	110	41	117	7	46
4							103	154	1,150a	82	7	32
5							72	124	635	64	7	26
6							51	110	352	51	6	28
7							72	86	618	41	6	24
8							46	69	336	31	6	18
9							67	56	176	25	6	15
10							36	53	117	21	9	20
11							34	51	89	19	13	47
12							38	58	69	19	10	27
13							103	41	58	51	8	32
14							78	31	51	30	7	168
15						304	103	24	61	19	7	192
16						465	117	23	42	16	9	103
17						304	110	20	31	13	13	67
18						138	110	17	24	12	17	54
19						89	208	16	69	13	42	42
20						67	138	13	51	12	27	34
21						28	103	103	42	10	16	30
22						17	86	499	46	10	12	30
23						24	72	200	31	10	14	30
24						17	64	117	64	10	30	27
25						200	224	103	58	10	14	30
26						384	161	78	36	9	7	24
27						96	110	78	320	10	10	20
28						82	416	53	336	12	10	19
29						208	686	38	131	12	9	17
30						772	336	30	82	9	8	15
31						200		23		9	16	

(a) Discharge at 6:00 p. m. 1,880 second-feet (gage height 9.85 feet).

NOTE:—Daily discharge computed from a rating curve well defined between 7 and 830 second-feet (gage heights 1.2 and 6.5 feet).

Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, as follows: Jan. 22—31, 13 second-feet; Feb. 1—10, 11 second-feet; Feb. 11—20, 8 second-feet; Feb. 21—28 4 second-feet; and Mar. 1—14, 6 second-feet.

*Monthly discharge of Little Rib River near Wausau, Wis.,  
for the year ending Sept. 30, 1914.*

[Drainage area, 76 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
January(10-31)			10.5	0.138	0.11	C
February			7.9	.104	.12	C
March	722		111.	1.46	1.68	C
April	686	34	145.	1.90	2.12	A
May	499	13	88.1	1.16	1.34	A
June	1,150	16	172.	2.26	2.52	A
July	304	9	42.0	.553	.64	A
August	42	6	11.9	.157	.18	B
September	432	15	58.2	.766	.85	B

**EAU CLAIRE RIVER AT KELLY, WIS.**

**Location.**—At highway bridge three-fourths mile below Kelly, Wis., about 1 mile above mouth of Big Sandy Creek, which enters from the right, and  $4\frac{1}{2}$  miles above mouth of river.

**Records available.**—January 1 to September 30, 1914.

**Drainage area.**—326 square miles.

**Gage.**—Chain gage fastened to downstream side of highway bridge; read

twice daily, morning and evening, to quarter tenths; limits of use: hundredths below 1.0 foot, half tenths between 1.0 and 2.5 feet, and tenths above 2.5 feet.

**Control.**—Heavy gravel and rock; permanent.

**Discharge measurements.**—Made from downstream side of bridge at medium and high stages; by wading below bridge at low stages.

**Regulation.**—Immediately above the gage is a dam which was formerly used to create a pond at a mill but is now used for floating logs; during a few days in the spring the manipulation of the gates in the dam causes sudden fluctuations at the gage; at other times the flow is natural.

**Accuracy.**—Records excellent.

Discharge measurements of Eau Claire River at Kelley, Wis., during the year ending Sept. 30, 1914.

Date	Made by	Gage height Feet	Discharge Sec.-ft.	Date	Made by	Gage height Feet	Discharge Sec.-ft.
Jan. 1	G. H. Canfield	0.77	77	May 6	H. C. Beckman	2.23	651
Feb. 10 (a)	O. A. Steller	.90	130	June 5	W. G. Hoyt	3.22	1,260
Mar. 21 (a)	H. C. Beckman	.91	103	Sept. 2 (b)	W. G. Hoyt	1.69	333
Apr. 21	H. C. Beckman	2.61	855				

(a) Partial ice cover at control when measurement was made.  
(b) Measurement made by wading below gage.

Daily gage height, in feet, of Eau Claire River near Kelley, Wis., for the year ending Sept. 30, 1914.

[John Duginski, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1				0.78	0.85		2.1	3.1	1.8	3.2	0.51	1.3
2				.79	.84		1.9	3.0	1.75	3.0		1.65
3				.80	.82		1.8		2.4	2.7	.50	1.8
4				.82	.85		1.7	2.7	4.4		.50	1.85
5				.81	.85	0.90	1.5	2.45	4.0	2.2	.50	1.8
6				.82	.84	.94	1.65	2.15	3.7	1.9	.50	1.75
7				.82	.84	.92	1.6	2.05	3.4	1.6	.50	1.7
8				.85	.82		1.5	1.9	3.2	1.2	.49	1.7
9				.86	.86	.95	1.3	1.7	3.1	1.1		1.7
10				.85	.85	1.0	1.25	1.6	2.7	1.0	.80	1.8
11				1.4	.86	1.0	1.2	1.5	2.2	.98	.79	2.2
12				1.4	.92	.95	1.1	1.3	2.05	1.0	.65	2.5
13				.84	.91	1.0	1.2	1.15	1.85	1.2	.46	2.5
14				.82	.89	1.1	1.3	1.05	1.9	1.1	.46	2.2
15				.86	.88		1.4	1.2	1.95	1.1	.45	1.9
16				.84	1.0	1.2	1.5	1.15	1.8	1.0	.60	1.95
17				.84	1.05	1.2	1.65	1.2	1.7	1.05	.72	2.15
18				.82	1.05	1.1	1.8	1.1	1.5	.96	.98	1.9
19				.84	1.0	1.1	2.1	1.05	1.4		1.2	1.65
20				.85	1.05	1.0	3.0	1.0	1.3	.92	1.25	1.5
21				.85	1.05	1.0	2.7	1.3		.81	1.15	1.4
22				.85	.98	1.0	2.5	3.7	1.4	.79	1.1	1.3
23				.84	1.0	1.0	2.05	3.1	1.5	.72	1.0	1.15
24				.84		1.0	2.1	2.6	1.5	.69	.92	1.05
25				.82		1.0	2.25	2.8	1.5	.62	.86	.75
26				.84		1.1	2.7	2.25	1.5	.60	.82	.66
27				.84		1.1	2.9	2.05	2.1	.66	.82	
28				.84		1.2		2.0	3.8	.71	.81	.61
29				.78			4.0	2.2	3.4	.64	.84	.49
30				.84		1.9		2.1	3.4	.55	.80	.51
31				.85		2.1		1.9		.51	.89	

NOTE:—Discharge relation affected by ice about Jan. 11 to Mar. 20.



Daily discharge, in second-feet, of Eau Claire River near Kelley, Wis.,  
for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1							557	1,180	390	1,250	45	203
2							443	1,120	365	1,120	44a	318
3							390	1,020a	738	925	44	390
4							340	925	2,120	771a	44	416
5							261	769	1,820	617	44	390
6												
8							318	587	1,600	443	44	365
7							296	528	1,390	296	44	340
3							261	443	1,250	176	43	340
9							203	340	1,180	150	62a	340
10							190	296	925	125	82	390
11												
12							176	251	617	120	81	617
13							150	203	528	125	61	800
14							176	163	416	176	40	800
15							203	138	443	150	40	617
							231	176	471	150	40	443
16												
17							261	163	390	125	55	471
18							318	176	340	138	70	587
19							390	150	261	116	120	443
20							557	138	231	112a	176	318
							1,120	125	203	107	190	261
21						125	925	203	217a	84	163	231
22						125	800	1,600	231	81	150	203
23						125	528	1,180	261	70	125	163
24						125	557	862	261	66	107	138
25						125	647	990	261	57	94	74
26						150	925	647	261	55	86	62
27						150	1,060	528	557	62	86	59a
28						176	1,440a	499	1,670	68	84	56
29						310a	1,820	617	1,390	60	90	43
30						443	1,500	557	1,390	50	82	45
31						557		443		45	100	

(a) Interpolated.  
Note:—Daily discharge computed from a rating curve well defined between 67 and 1,460 second-feet, (gage heights 0.7 and 3.5 feet).  
Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, as follows: Jan. 11—20, 84 second-feet; Jan. 21—31, 77 second-feet; Feb. 1—10, 72 second-feet; Feb. 11—20 73 second-feet; Feb. 21—28, 72 second-feet; Mar. 1—10, 89 second-feet; and Mar. 11—20, 135 second-feet.

Monthly discharge of Eau Claire River near Kelley, Wis.,  
for the year ending Sept. 30, 1914.  
[Drainage area, 326 square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
January			79.7	0.244	0.28	C
February			72.4	.222	.23	D
March	557		150.	.460	.53	C
April	1,820	150	568.	1.74	1.94	B
May	1,600	125	549.	1.68	1.94	A
June	2,120	203	739.	2.27	2.53	A
July	1,250	45	255.	.782	.90	A
August	190	40	81.8	.251	.29	B
September	800	43	331.	1.02	1.14	A

BIG EAU PLEINE RIVER NEAR STRATFORD, WIS.

Location.—Highway bridge at a place locally known as Weber Farm, about 2 miles north of Stratford, Wis. Station is about 1 mile above the Northwestern Railway bridge. Dill Creek enters from the right about 5 miles above the station.

**Records available.**—July 24 to September 30, 1914.

**Drainage area.**—223 square miles.

**Gage.**—Sloping gage reading from 1.0 to 15.6 feet, on the right bank of the river; on same section and at upper end of sloping gage is a vertical staff gage, reading from 15 to 18 feet; gage read twice daily, morning and evening, to quarter tenths; limits of use: hundredths below 2.0 feet, half tenths between 2.0 and 3.0 feet, and tenths above 3.0 feet.

**Control.**—Heavy gravel; probably permanent except during high stages.

**Discharge measurements.**—At low stages made by wading near gage; at medium and high stages made either from a highway bridge or the Northwestern Railway bridge, both below the gage.

**Winter flow.**—Discharge relation affected by ice; flow determined by measurements made through the ice.

**Regulation.**—None.

**Data insufficient for estimates of discharge.**

*Discharge measurements of Big Eau Pleine River near Stratford, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height Feet	Discharge Sec.-feet
July 23 (a).....	H.C. Beckman.....	1.83	22.8
Sept. 18.....	M. F. Rather.....	3.78	598

(a) Measurement made by wading at a section 1,000 feet below gage.

*Daily gage height, in feet, of Big Eau Pleine River near Stratford, Wis.,  
for the year ending Sept. 30, 1914.*

[Christian Weber, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1											1.80	2.5
2											1.80	2.25
3											1.75	2.3
4											1.72	2.15
5											1.70	2.1
6											1.65	2.1
7											1.65	2.05
8											1.65	1.98
9											1.62	1.92
10											1.68	1.92
11											1.70	2.2
12											1.68	2.35
13											1.68	2.2
14											1.70	3.3
15											1.65	4.0
16											1.65	3.6
17											1.65	3.7
18											2.2	3.8
19											2.5	3.0
20											2.25	2.6
21											2.1	2.4
22											1.98	2.45
23											1.98	2.7
24										1.8	2.6	2.55
25										1.8	2.25	2.4
26										1.78	2.1	2.3
27										1.82	1.92	2.2
28										1.92	1.85	2.1
29										1.98	1.85	2.05
30										1.92	1.82	2.0
31										1.88	1.90	

**PLOVER RIVER NEAR STEVENS POINT, WIS.**

**Location.**—At Fast Waters highway bridge, 7 miles above mouth of river.

**Records available.**—January 5 to September 30, 1914.

**Drainage area.**—136 square miles.

**Gage.**—Metal staff gage bolted to the left abutment, downstream side of bridge; read twice daily, morning and evening, to quarter tenths; limits of use: hundredths below 1.0 foot, half tenths between 1.0 and 2.0 feet, and tenths above 2.0 feet.

**Control.**—Gravel; smooth, free from vegetation; probably permanent.

**Discharge measurements.**—Made from downstream side of bridge to which gage is attached.

**Winter flow.**—Discharge relation affected by ice; flow determined from discharge measurements made through the ice.

**Regulation.**—Two dams are used in connection with grist mills above the station, but the plants have little pondage so that flow at the gage is nearly natural.

**Accuracy.**—Rating curve well defined; records probably good.

*Discharge measurements of Plover River near Stevens Point, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
Jan. 5(a).....	H. C. Beckman.....	1.30	124
Feb. 6(b).....	O. A. Steller.....	1.43	113
Mar. 23(c).....	H. C. Beckman.....	1.15	111
Apr. 30.....	H. C. Beckman.....	2.75	502
Apr. 30.....	H. C. Beckman.....	2.76	519
May 6.....	H. C. Beckman.....	1.90	282
June 6.....	W. G. Hoyt.....	4.15	1,120
June 9.....	H. C. Beckman.....	3.38	697
Sept. 23.....	G. H. Canfield.....	1.75	252

(a) Measurement made from bridge; little ice present.

(b) 90 per cent ice cover at control.

(c) Thin ice cover at edge of stream.

# Railroad Commission Report

*Daily gage height, in feet, of Plover River near Stevens Point, Wis.,  
for the year ending Sept. 30, 1914.*

[C. A. Van Order, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1					1.45	2.0	1.5	2.6	1.5	2.4	1.2	1.4
2					1.3	2.0	1.4	2.4	1.4	2.4	1.3	1.3
3					1.3	1.85	1.4	2.2	1.7	2.2	1.3	1.3
4					1.5	1.8	1.35	1.95	4.1	2.2	1.2	1.2
5				1.3	1.5	1.8	1.3	1.65	4.6	2.0	1.25	1.3
6					1.3	1.75	1.3	1.8	4.2	1.8	1.2	1.25
7				1.25	1.35	1.95	1.3	1.75	4.4	1.65	1.2	1.3
8				1.2	1.45	1.95	1.2	1.75	4.0	1.6	1.15	1.25
9				1.25	1.65	1.9	1.15	1.65	3.4	1.5	1.15	1.2
10				1.5	1.45	1.85	1.2	1.6	2.9	1.5	1.2	1.2
11				1.5	1.5	1.85	1.2	1.55	2.5	1.5	1.15	1.25
12				1.6	1.6	1.75	1.25	1.4	1.9	1.55	1.1	1.3
13				1.55	1.6	1.75	1.2	1.6	1.9	1.55	1.2	1.4
14				1.2	1.6	1.6	1.2	1.45	1.9	1.6	1.15	1.8
15				1.3	1.8	2.0	1.3	1.45	1.7	1.6	1.2	1.9
16				1.3	1.8	1.7	1.25	1.45	1.8	1.5	1.25	2.3
17				1.25	1.75	1.65	1.35	1.4	1.6	1.45	1.4	2.7
18				1.3	1.8	1.55	1.35	1.25	1.6	1.4	1.55	2.8
19				1.3	1.8	1.6	1.6	1.25	1.65	1.4	1.55	2.4
20				1.25	1.7	1.55	1.8	1.25	1.7	1.45	1.5	2.1
21				1.4	1.7	1.2	1.85	1.45	1.75	1.35	1.5	1.85
22				1.55	2.0	1.2	1.8	2.0	1.8	1.3	1.5	1.7
23				1.25	1.95	1.55	1.5	2.0	1.85	1.25	1.45	1.4
24				1.2	1.65	1.45	1.5	2.3	1.7	1.45	1.3	1.55
25				1.6	1.95	1.2	1.65	2.3	1.7	1.4	1.2	1.5
26				1.7	2.2	1.3	1.75	1.95	1.7	1.3	1.2	1.5
27				1.3	2.2	1.2	2.0	1.9	1.7	1.4	1.25	1.4
28				1.4	1.9	1.4	2.1	1.9	2.2	1.3	1.2	1.4
29				1.35		1.3	2.7	1.8	2.3	1.3	1.2	1.35
30				1.5		1.4	2.7	1.8	2.3	1.3	1.25	1.3
31				1.2		1.45		1.7		1.25	1.3	

NOTE:—Discharge relation affected by ice about Jan. 5 to Mar. 31.

Daily discharge, in second-feet, of Plover River near Stevens Point, Wis. for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1							198	466	198	410	141	178
2							178	410	178	410	159	159
3							178	357	240	357	159	159
4							168	296	1,090	357	141	141
5							159	230	1,450	308	150	159
6							159	262	1,160	262	141	150
7							159	251	1,300	230	141	159
8							141	251	1,020	219	132	150
9							132	230	711	198	132	141
10							141	219	551	198	141	141
11							141	208	438	198	132	150
12							150	178	285	208	124	159
13							141	219	285	208	141	178
14							141	188	285	219	132	262
15							159	188	240	219	141	285
16							150	188	262	198	150	383
17							168	178	219	188	178	494
18							168	150	219	178	208	522
19							219	150	230	178	208	410
20							262	150	240	188	198	332
21							274	188	251	168	198	274
22							262	308	262	159	198	240
23							198	308	274	150	188	178
24							198	383	240	188	159	208
25							230	383	240	178	141	198
26							251	296	240	159	141	198
27							308	285	240	178	150	178
28							332	285	357	159	141	178
29							494	262	383	159	141	168
30							494	262	383	159	150	159
31								240		150	159	

NOTE —Daily discharge computed from a rating curve well defined between 198 and 1,370 second-feet (gage heights 1.5 and 4.5 feet). Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, as follows: Jan 5-15, 125 second-feet; Jan 16-31, 123 second-feet; Feb 1-10, 115 second-feet; Feb 11-20, 100 second-feet; Feb 21-28, 140 second-feet; Mar 1-10, 165 second-feet; Mar. 11-20, 192 second-feet; and Mar. 21-31, 140 second-feet.

Monthly discharge of Plover River near Stevens Point, Wis., for the year ending Sept. 30, 1914.  
[Drainage area, 136 square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
January (5-31)			124	0.912	0.92	C
February			117	.860	.90	C
March			165	1.21	1.40	D
April	494	132	212	1.56	1.74	B
May	466	150	257	1.89	2.18	B
June	1,450	178	449	3.30	3.68	A
July	410	150	217	1.60	1.84	B
August	208	124	155	1.14	1.31	B
September	522	141	223	1.64	1.83	B

**BARABOO RIVER NEAR BARABOO. WIS.**

**Location.**—Highway bridge 4 miles downstream from Baraboo, Wis., about 3 miles below creek rising near Devil's Lake, coming in from the right, and 15 miles above mouth of river.

**Records available.**—December 18, 1913, to September 30, 1914.

**Drainage area.**—572 square miles.

**Gage.**—Chain gage, attached to upstream side of bridge; read twice daily, morning and evening, to hundredths; limits of use: hundredths below 2.0 feet, half tenths between 2.0 and 3.0 feet, and tenths above 3.0 feet.

**Control.**—Sandy; likely to shift during floods.

**Discharge measurements.**—Made from highway bridge to which gage is attached.

**Winter flow.**—Discharge relation affected by ice; discharge estimated from discharge measurements made monthly.

**Regulation.**—Daily flow may be somewhat affected by operation of power plants in Baraboo; estimates of mean monthly discharge probably represent nearly the natural flow.

**Accuracy.**—Records probably good.

*Discharge measurements of Baraboo River near Baraboo, Wis., during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
December 18 (a).....	H. C. Beckman.....	2.16	212
January 23 (b).....	H. C. Beckman.....	1.90	185
February 25 (c).....	O. A. Steller.....	2.24	150
March 27 (a).....	W. G. Hoyt.....	2.77	323
April 1.....	Canfield and Rather.....	4.58	571
May 11.....	H. C. Beckman.....	2.41	271
May 29.....	G. H. Canfield.....	4.02	493
June 22.....	H. C. Beckman.....	5.47	777
August 19.....	H. C. Beckman.....	5.53	664

(a) No ice; control clear.

(b) Thin ice at gage; control open in center.

(c) Complete ice cover.

*Daily gage height, in feet, of Baraboo River near Baraboo, Wis., for the year ending Sept. 30, 1914.*

[G. C. Johnson, observer]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1				1.45	6.0	2.9	4.5	6.5	2.0	4.3	1.44	1.74
2				1.90	5.5	2.75	4.5	5.4	2.1	2.9	1.24	1.64
3				1.84	3.8	3.2	4.3	3.6	2.1	2.7	1.08	2.9
4				1.66	3.1	3.7	2.8	3.8	2.4	2.55	1.11	2.8
5				1.40	2.45	3.6	3.0	4.0	2.1	1.88	1.60	2.3
6				1.68	2.4	2.9	2.65	4.4	2.3	2.0	1.70	1.8
7				1.88	2.0	2.85	2.9	3.7	3.5	2.05	1.61	1.93
8				1.96	1.80	2.2	2.9	2.95	3.2	2.05	1.36	1.35
9				1.93	1.78	2.15	2.85	3.3	3.3	1.97	1.40	1.52
10				1.92	2.2	2.25	2.9	2.35	2.55	1.82	1.24	1.44
11				2.1	2.35	2.25	2.75	2.45	1.98	2.3	1.24	1.74
12				1.88	2.35	2.3	2.85	4.1	1.60	1.36	1.52	1.62
13				1.95	2.15	2.75	2.5	4.2	1.45	1.93	1.41	1.42
14				2.15	2.2		2.5	3.6	1.61	3.3	1.67	1.85
15				2.1	1.88	3.8	2.4	2.95		5.2	1.55	4.0
16				2.05	1.81	4.1	2.8	2.6		5.7	1.62	5.4
17				1.76	2.1	4.4	2.65	2.1	1.99	4.5	1.08	5.7
18			2.15	1.51	2.25	4.6	2.75	2.0	1.95	2.9	1.97	5.5
19			2.05	1.40	2.2	3.4	2.85	2.0	1.62	2.25	4.6	4.8
20			2.2	1.59	2.25	2.55	3.5	1.97	1.70	1.74	3.9	3.0
21			1.74	1.94	2.25	2.25		2.05	3.4	1.96	3.3	2.35
22			1.76	2.35	1.97	1.93		2.1	5.5	1.95	3.2	1.98
23			2.1	1.96	1.98	2.45		2.55	6.7	1.83	2.6	1.53
24			1.93	1.92	2.15	2.5		2.4	7.2	1.82	2.75	2.1
25			1.90	2.1	2.3	2.55	3.3	3.0	7.3	1.72	2.85	1.96
26			1.69	1.96	2.25	2.6	3.4	4.9	5.4	1.78	2.6	1.88
27			1.83	1.88	2.35	2.6	3.4	5.5	3.7	1.56	2.2	1.69
28			1.72	2.1	2.45	2.7	4.2	5.5	3.4	1.42	1.96	1.62
29			1.78	3.5		2.95	4.8	3.9	4.3	1.71	1.82	1.84
30			1.78	5.4		3.7	6.4	2.85	5.1	1.70	1.74	1.90
31			2.05	5.6		4.0		1.61		1.73	1.52	

NOTE.—Discharge relation affected by ice about Dec. 18, 1913, to March 10, 1914.

Daily discharge, in second-feet, of Baraboo River near Baraboo, Wis.,  
for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1							568	1,040	213	535	152	181
2							568	755	226	337	134	171
3							535	435	226	309	119	337
4							323	463	267	288	122	323
5							351	491	226	198	167	253
6							302	551	253	213	177	188
7							337	449	421	220	168	204
8							337	344	379	220	144	144
9							330	393	393	209	148	159
10							337	260	288	190	134	152
11						246	316	274	210	253	134	181
12						253	330	505	167	144	159	169
13						316	281	520	152	204	149	150
14						a390	281	435	168	393	174	194
15						463	267	344	a 183	710	162	491
16						505	323	295	a 197	826	169	755
17						551	302	226	212	568	119	826
18						586	316	213	206	337	209	778
19						407	330	213	169	246	502	625
20						288	421	209	177	181	396	351
21						246	a 416	220	407	208	350	260
22						264	a 411	226	778	206	325	210
23						274	a 405	288	1,100	192	295	160
24						281	a 400	267	1,250	190	316	226
25						288	393	351	1,280	179	330	208
26						295	407	646	755	186	295	198
27						295	407	778	449	163	239	176
28						309	520	778	407	150	208	169
29						344	625	477	535	178	190	193
30						449	1,010	330	688	177	181	200
31						491		168		180	159	

(a) Interpolated

NOTE.—Daily discharge computed from a rating curve fairly well defined between 172 and 826 second-feet (gage heights, 1.8 and 5.7 feet). Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements, and climatologic records, as follows: Dec. 18-31, 184 second-feet; Jan. 1-10, 170 second-feet; Jan. 11-20, 180 second-feet; Jan. 21-31, 380 second-feet; Feb. 1-10, 366 second-feet; Feb. 11-20, 165 second-feet; Feb. 21-28, 156 second-feet; and Mar. 1-10, 296 second-feet Discharge Aug. 19-22 estimated by means of measurement made Aug. 19.

Monthly discharge of Baraboo River near Baraboo, Wis.,  
for the year ending Sept. 30, 1914.

[Drainage area, 572 square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
December (18-31)			184	0.322	0.17	C
January			248	.434	.50	D
February			234	.409	.43	D
March	586		337	.589	.68	C
April	1,010	267	405	.708	.79	A
May	1,040	168	418	.731	.84	A
June	1,280	152	413	.722	.81	A
July	826	144	277	.484	.56	A
August	502	119	211	.369	.43	B
September	826	144	288	.503	.56	A



**KICKAPOO RIVER AT GAYS MILLS, WIS.**

**Location.**—At highway bridge immediately below the Norwood Mill, in the town of Kickapoo, Wis., about 25 miles above the mouth of the river and 2 miles below the mouth of Tainter Creek coming in from the right.

**Records available.**—December 25, 1913, to September 30, 1914.

**Drainage area.**—629 square miles.

**Gage.**—Chain gage fastened to downstream side of highway bridge; read twice daily, morning and evening, to quarter tenths; limits of use: hundredths below 1.0 foot, half tenths between 1.0 and 2.0 feet, and tenths above 2.0 feet.

**Control.**—May shift during high water.

**Winter flow.**—Discharge relation affected by ice; flow determined from discharge measurements made through the ice.

**Regulation.**—Little, if any, diurnal fluctuation noted at the gage; flow probably natural.

**Accuracy.**—See footnotes.

*Discharge measurements of Kickapoo River at Gays Mills, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Dis-charge
		Feet	Sec -feet
December 18 (a).....	G. H. Canfield.....	0.96	224
December 24 (b).....	H. C. Beckman.....	1.13	274
January 21 (a).....	W. G. Hoyt.....	.97	228
February 26 (c).....	O. A. Steller.....	1.58	213
March 27 (a).....	H. C. Beckman.....	1.32	336
April 4.....	Beckman and Rather.....	1.44	363
June 23.....	M. F. Rather.....	5.35	1,300
June 23.....	M. F. Rather.....	5.47	1,310
June 24.....	M. F. Rather.....	3.46	693
June 24.....	M. F. Rather.....	2.67	530
June 24.....	M. F. Rather.....	2.52	527
June 24.....	M. F. Rather.....	2.07	508
June 25.....	M. F. Rather.....	1.87	441
August 21.....	E. E. Dillon.....	1.50	326

(a) Control section clear of ice.

(b) Thin ice cover along shore.

(c) Measurement made under complete ice cover; partial ice cover at control section.

# Railroad Commission Report

*Daily gage height, in feet, of Kickapoo River at Gays Mills, Wis.,  
for the year ending Sept. 30, 1914.*

[N. T. Norwood, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1				1.1	3.8	2.7	2.3	1.4	1.15	2.8	0.91	2.1
2				1.1	1.55	2.8	2.5	1.3	1.05	3.1	1.0	2.6
3				1.1	1.3	2.4	1.7	1.35	1.1	2.0	1.0	1.5
4				1.1	1.25	1.9	1.45	1.2	1.15	1.9	1.0	1.2
5				1.1	1.2	1.95	1.25	1.5	1.65	1.55	.90	1.1
6				1.1	1.15	2.0	1.35	1.35	2.1	1.3	1.0	1.1
7				1.1	1.2	3.0	1.4	1.2	1.65	1.4	1.0	1.0
8				1.1	1.4	2.2	1.4	1.2	2.0	1.5	1.0	1.0
9				1.1	1.35	1.8	1.3	1.2	2.3	1.3	.97	1.0
10				1.1	1.5	1.5	1.2	1.1	1.5	1.2	.93	1.0
11				1.05	1.75	1.4	1.3	1.3	1.1	1.2	.90	1.0
12				1.2	1.6	1.35	1.3	1.4	1.2	1.75	.90	1.0
13				1.1	1.45	1.3	1.25	1.35	1.1	3.0	.93	1.0
14				1.1	1.4	1.55	1.3	1.3	1.05	2.6	.89	1.95
15				1.15	1.4	2.2	1.2	1.2	1.3	2.0	.88	3.6
16				1.15	1.6	2.5	1.3	1.1	1.1	1.5		3.3
17				1.1	1.6	1.9	1.25	1.0	1.0	1.4	.96	2.7
18				1.1	1.55	1.2	1.2	1.05	1.05	1.3	1.0	2.0
19				1.1	1.55	1.1	1.3	1.0	1.05	1.2	1.8	1.5
20				1.15	1.5	1.1	1.6	1.05	1.0	1.1	1.3	1.2
21				1.1	1.5	1.1	1.45	1.05	2.3	1.1	1.4	1.2
22					1.4	1.1	1.25	1.1	4.6	1.1	1.1	1.3
23					1.5	1.1	1.2	2.1	5.3	1.05	1.5	1.5
24					1.5	1.1	1.15	2.4	2.9	1.05	1.9	1.4
25			1.2		1.55	1.15	1.3	4.7	1.7	1.1	1.25	1.25
26			1.15		1.5	1.2	1.7	4.3	4.6	1.1	1.05	1.15
27			1.1		1.65	1.3	1.5	1.9	4.0	1.1	1.0	1.1
28			1.1		2.6	1.3	1.45	1.6	4.8	1.2	1.0	1.05
29			1.05			1.45	1.75	1.5	4.6	1.05	.98	1.1
30			1.05	5.0		3.2	1.95	1.3	2.3	1.05	1.0	1.1
31			1.1	4.4		3.1		1.15		1.0	.99	

NOTE.—Discharge relation affected by ice about Feb. 9 to Mar. 11.

Daily discharge, in second-feet, of Kickapoo River at Gays Mills, Wis.,  
for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1				265	790		518	355	280	545	162	470
2				265	392		525	325	251	595	185	522
3				265	325		430	340	265	485	185	325
4				265	310		368	295	280	470	185	237
5				265	295		310	380	418	392	159	211
6				265	280		340	340	500	325	185	211
7				265	295		355	295	418	355	185	185
8				265	355		355	295	485	380	185	185
9				265			325	295	518	325	177	185
10				265			295	265	380	295	167	185
11				251			325	325	265	295	159	185
12				295		340	325	355	295	440	159	185
13				265		325	310	340	265	575	167	185
14				265		392	325	325	251	527	156	440
15				280		510	295	295	325	485	154	670
16				280		525	325	265	265	380	a164	595
17				265		470	310	237	237	355	175	525
18				265		295	295	251	251	325	185	450
19				265		265	325	237	251	295	405	325
20				280		265	405	251	237	265	265	237
21				265		265	368	251	518	265	295	237
22				b 265		265	310	265	1,030	265	211	265
23				b 265		265	295	500	1,260	251	325	325
24				b 265		265	280	522	560	251	430	295
25			295	b 265		280	325	1,060	430	265	251	251
26			280	b 265		295	430	940	1,030	265	198	224
27			265	b 290		325	380	470	850	265	185	211
28			265	b 300		325	368	405	1,100	295	185	198
29			251	b 500		368	440	380	1,030	251	180	211
30			251	1,160		620	478	325	518	251	185	211
31			265	971		595		280		237	182	

(a) Interpolated.  
(b) Estimated  
Note — Daily discharge computed from a rating curve well defined between 211 and 1,340 second-feet (gage heights, 0.9 and 5.5 feet). Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, as follows: Feb. 9-15, 280 second-feet; Feb. 16-29, 226 second-feet; and Mar. 1-11, 436 second-feet.

Monthly discharge of Kickapoo River at Gays Mills, Wis.,  
for the year ending Sept. 30, 1914.

[Drainage area, 629 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
December (25-31)	295	251	267	0.424	0.11	B
January	1,160	251	328	.521	.60	B
February	790		284	.452	.47	C
March	620		389	.618	.71	C
April	525	280	358	.569	.63	A
May	1,060	237	370	.588	.68	A
June	1,260	237	492	.782	.87	A
July	595	237	354	.563	.65	B
August	430	154	206	.328	.38	C
September	670	185	298	.474	.53	B

## ROCK RIVER BASIN

## ROCK RIVER AT WATERTOWN, WIS.

**Location.**—At Milwaukee Street highway bridge, city of Watertown, Wis. Crawfish River enters from the right about 16 miles below and Oconomowoc River from the left about 9 miles above the station.

**Records available.**—June 18 to September 30, 1914.

**Drainage area.**—964 square miles.

**Gage.**—Standard chain gage attached to downstream side of bridge; read twice daily, morning and afternoon, to hundredths; limits of use: hundredths below 3.0 feet, half tenths between 3.0 and 4.0 feet, and tenths above 4.0 feet.

**Control.**—Composed of heavy gravel in which there is a large growth of grass; bed of river is in itself permanent; amount of grass depends on the season.

**Discharge measurements.**—Made from downstream side of bridge during high water and by wading during low and medium stages.

**Winter flow.**—Data not available.

**Regulation.**—Immediately above the station is a dam with a 10-ft. head, furnishing water to two grist mills, one on each side of the river. During periods of low flow the water stands below the crest of the dam, the entire flow passing through the wheels; gage record for such periods shows a diurnal fluctuation; the flow is also influenced to some extent by operation of the "Rough and Ready" dam, about  $1\frac{1}{2}$  miles above the station.

**Accuracy.**—Gage height record only fair. Data insufficient for estimates of daily and monthly discharge.

*Discharge measurements of Rock River at Watertown, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
		Feet	Sq.-feet
June 18.....	G. H. Canfield.....	2.15	281
June 29.....	W. G. Hoyt.....	3.33	1,410
July 21 (a).....	W. G. Hoyt.....	2.30	254

(a) Measurement made by wading.

NOTE.—Grass present at control when the above discharge measurements were made.

Daily gage height, in feet, of Rock River at Watertown, Wis.,  
for the year ending Sept. 30, 1914.  
[Herbert Euper, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1										3.05	2.37	2.40
2										2.92	a1.92	2.43
3										2.84	2.34	2.40
4										2.67	2.36	2.36
5										2.57	2.21	2.31
6										2.59	2.14	a1.86
7										2.44	2.22	2.22
8										2.48	2.36	2.29
9										2.47	a1.64	1.95
10										2.44	2.34	2.31
11										2.39		2.16
12										2.32	2.34	2.21
13										2.30	2.22	a1.74
14										2.38	2.20	2.36
15										2.38	1.92	3.6
16										2.36	a1.66	3.8
17										2.36	2.41	3.65
18									1.99	2.32	2.20	3.55
19									2.10	2.16	2.33	3.45
20									2.10	2.31	2.40	3.2
21									2.19	2.28	2.44	3.05
22									2.98	2.32	2.62	2.88
23									3.55	2.26	a2.36	2.78
24									3.6	2.33	2.50	2.69
25									3.55	2.10	2.42	2.64
26									3.45	a1.64	2.40	2.60
27									3.5	2.35	2.32	2.54
28									3.4	2.30	2.23	2.54
29									3.3	2.30	2.20	2.48
30									3.2	2.10	a1.80	2.42
31										2.12	2.42	

(a) Sunday.

ROCK RIVER AT AFTON, WIS.

**Location.**—At highway bridge, town of Afton, Wis., about 9 miles above the Illinois state line. Bass Creek enters from the right about three-fourths mile below the station.

**Records available.**—February 5 to September 30, 1914.

**Drainage area.**—3,190 square miles.

**Gage.**—Chain gage fastened to the downstream side of highway bridge; read twice daily, morning and evening, to quarter tenths; limits of use: hundredths below 2.0 feet, half tenths between 2.0 and 3.0 feet, and tenths above 3.0 feet.

**Control.**—No definite control below gage. River bed consists of gravel and clam shells; and is probably permanent.

**Discharge measurements.**—Made from the downstream side of highway bridge during medium and high stages; at low stages by wading.

**Winter flow.**—Discharge relation affected by ice; flow determined from measurements made through the ice.

**Regulation.**—Operation of power plants at Janesville and above causes fluctuations at the gage during low stages.

**Accuracy.**—Rating curve well defined; records excellent except for periods during extremely low water.

*Discharge measurements of Rock River at Afton, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
February 5 (a).....	Hoyt and Canfield.....	2.51	1,270
March 3 (b).....	H. C. Beckman.....	1.96	673
March 28 (c).....	G. H. Canfield.....	3.46	2,180
May 13.....	G. H. Canfield.....	4.28	2,910
May 15.....	M. F. Rather.....	4.37	2,970
July 23 (d).....	W. G. Hoyt.....	1.15	709
September 15 (e).....	W. G. Hoyt.....	7.52	4,880
September 18.....	W. G. Hoyt.....	5.24	3,950

(a) Small amount of ice in river below bridge.

(b) Nearly complete ice cover below bridge.

(c) River clear of ice.

(d) Measurement made by wading at a section 20 feet above the gage.

(e) Apparently backwater; cause of backwater not known.

*Daily gage height, in feet, of Rock River at Afton, Wis.,  
for the year ending Sept. 30, 1914.*

[Aden Clarke, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1.....						2.15	4.2	3.6	3.4	4.0	1.12	1.09
2.....						2.15	4.4	3.5	3.4	4.2	.86	1.24
3.....						2.1	4.6	3.4	3.2	4.2	1.14	1.36
4.....						1.98	4.7	3.5	3.3	3.9	1.05	1.22
5.....					2.5	2.1	4.6	3.7	3.3	3.7	1.05	1.28
6.....					2.2	2.1	4.8	3.6	3.1	3.7	.90	1.08
7.....					2.4	1.78	4.8	3.7	2.75	3.7	.81	1.26
8.....					2.55	1.70	4.8	3.9	2.8	3.7	.86	1.29
9.....					2.7	1.68	4.4	3.7	2.7	3.5	.66	1.49
10.....					2.7	1.65	4.4	3.5	2.65	3.2	.88	1.10
11.....					2.7	1.61	4.3	4.1	2.5	3.0	.94	1.14
12.....					2.65	1.58	4.1	4.4	2.45	3.0	1.05	1.20
13.....					2.5	1.85	4.2	4.4	2.4	2.65	1.06	1.04
14.....					2.35	2.2	4.1	4.3	2.35	2.55	1.08	1.48
15.....					2.1	2.0	4.0	4.3	2.35	2.3	.92	6.2
16.....					2.35	2.25	3.9	4.2	2.1	2.35	.52	5.4
17.....					2.35	2.60	3.8	4.2	1.98	2.1	.85	5.3
18.....					2.2	3.0	3.6	4.2	1.86	1.52	.89	5.2
19.....					2.1	3.2	3.3	4.0	1.88	1.62	1.00	5.2
20.....					2.35	3.2	3.6	3.7	1.95	1.64	1.01	5.4
21.....					2.4	3.4	3.3	3.6	1.90	1.55	1.06	5.4
22.....					1.88	3.3	3.4	3.4	2.15	1.28	1.14	5.4
23.....					2.00	3.4	3.3	3.1	2.2	1.32	1.32	5.4
24.....					2.05	3.3	3.1	3.1	2.45	1.16	1.49	5.3
25.....					2.1	3.2	2.7	3.9	2.6	1.31	1.42	5.3
26.....					2.1	3.2	3.1	3.6	3.6	.84	1.31	5.2
27.....					2.1	3.6	3.3	3.5	4.4	1.19	1.21	4.8
28.....					2.1	3.4	3.4	3.3	3.9	1.14	1.14	4.7
29.....						3.6	3.5	3.2	4.2	1.30	1.10	4.4
30.....						4.0	3.6	3.2	4.2	1.30	1.06	3.9
31.....						4.0		3.3		1.20	1.10	

NOTE — Discharge relation affected by ice about Feb. 5 to Mar. 13

Daily discharge, in second-feet, of Rock River at Afton, Wis.,  
for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1							2,850	2,310	2,140	2,670	692	678
2							3,040	2,220	2,140	2,850	579	748
3							3,240	2,140	1,980	2,850	702	804
4							3,340	2,220	2,060	2,580	660	739
5							3,240	2,400	2,060	2,400	660	767
6							3,450	2,310	1,900	2,400	595	674
7							3,450	2,400	1,640	2,400	559	758
8							3,450	2,580	1,670	2,400	579	771
9							3,040	2,400	1,600	2,220	506	866
10							3,040	2,220	1,560	1,980	587	683
11							2,940	2,760	1,460	1,820	612	702
12							2,760	3,040	1,430	1,820	660	730
13							2,850	3,040	1,400	1,560	665	656
14						1,270	2,760	2,940	1,360	1,500	674	861
15						1,150	2,670	2,940	1,360	1,330	604	4,530
16						1,300	2,580	2,850	1,210	1,360	465	4,160
17						1,530	2,490	2,850	1,140	1,210	575	4,040
18						1,820	2,310	2,850	1,070	881	591	3,920
19						1,980	2,060	2,670	1,080	932	638	3,920
20						1,980	2,310	2,400	1,120	942	642	4,160
21						2,140	2,060	2,310	1,090	896	665	4,160
22						2,060	2,140	2,140	1,240	767	702	4,160
23						2,140	2,060	1,900	1,270	785	785	4,160
24						2,060	1,900	1,900	1,430	711	866	4,040
25						1,980	1,600	2,580	1,530	781	833	4,040
26						1,980	1,900	2,310	2,310	571	781	3,920
27						2,310	2,060	2,220	3,040	725	735	3,450
28						2,140	2,140	2,060	2,580	702	702	3,340
29						2,310	2,220	1,980	2,850	776	683	3,040
30						2,670	2,310	1,980	2,850	776	665	2,580
31						2,670		2,060		730	683	

(a) Discharge estimated from discharge measurement made on this date.  
NOTE.—Daily discharge computed from a rating curve well defined between 638 and 4,290 second-feet (gage heights, 1.0 and 5.5 feet). Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements, and climatologic records, as follows: Feb. 5-15, 1,100 second-feet; Feb. 16-28, 840 second-feet; and Mar. 1-13, 970 second-feet.

Monthly discharge of Rock River at Afton, Wis.,  
for the year ending Sept. 30, 1914.  
[Drainage area, 3,190 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
February (5-28)			959	0.301	0.27	C
March	2,670		1,550	.486	.56	C
April	3,450	1,600	2,610	.818	.91	A
May	3,040	1,900	2,420	.759	.88	A
June	3,040	1,070	1,720	.539	.60	A
July	2,850	571	1,490	.467	.54	A
August	866	465	656	.206	.24	B
September	4,530	656	2,400	.752	.84	E

### CATFISH OR YAHARA RIVER AND LAKE MENDOTA AT MADISON, WIS.

**Location.**—At Main St. highway bridge across Yahara River, and at outlet of Lake Mendota, at Madison, Wis.

**Records available.**—December 18, 1902, to May 9, 1903; records published also in U. S. Geological Survey Water-Supply Paper 98.

**Gage.**—Both gages were vertical staffs, graduated to feet and tenths, and read once daily to nearest tenth of a foot. The gage in the Yahara River was fastened to a pile at the downstream side of the Main St. bridge; the gage in Lake Mendota was fastened to the right bank immediately above the dam. The zero of the gage in Lake Mendota was 6.12 feet above the zero of the Yahara River gage.

**Control.**—Bed of river mud, overgrown with grass.

**Discharge measurements.**—Made from Main St. highway bridge.

*Discharge measurements of Catfish or Yahara River at Madison, Wis.,  
during the year ending Sept. 30, 1903.*

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
December 18.....	L. R. Stockman.....	13.90	60
January 8 (a).....	L. R. Stockman.....	14.20	53
January 27.....	L. R. Stockman.....	14.10	60
February 23.....	L. R. Stockman.....	13.95	58
March 30.....	L. R. Stockman.....	15.00	197
April 18.....	L. R. Stockman.....	14.85	174
July 21.....	E. C. Murphy.....	15.05	35

(a) Ice present in river when measurement was made.

*Daily gage height, in feet, of Catfish or Yahara River at Madison, Wis.,  
for the year ending Sept. 30, 1903.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1.....				14.1	14.0	14.0	15.0	14.8				
2.....				14.1	14.0	14.1	15.0	14.65				
3.....				14.1	14.1	14.1	15.0	14.5				
4.....				14.1	14.3	14.3	15.0	14.5				
5.....				14.1	14.2	14.3	15.0	14.5				
6.....				14.0	14.2	14.3	15.0	14.6				
7.....				14.0	14.2	14.3	14.9	14.6				
8.....				14.0	14.1	14.3	14.9	14.65				
9.....				14.1	14.1	14.6	14.8	14.7				
10.....				14.1	14.1	14.6	14.8					
11.....				14.2	14.1	14.7	14.8					
12.....				14.2	14.1	14.8	14.9					
13.....				14.2	14.0	14.7	14.9					
14.....				14.3	14.0	14.8	14.9					
15.....				14.3	14.0	14.7	14.9					
16.....				14.3	14.1	14.7	14.9					
17.....				14.3	14.1	15.1	14.9					
18.....			13.9	14.3	14.1	15.2	14.8					
19.....			13.9	14.3	14.1	15.3	14.8					
20.....			13.9	14.3	14.0	15.3	14.8					
21.....			13.9	14.3	14.0	15.2	14.8					
22.....			13.9	14.3	14.0	15.2	14.8					
23.....			14.0	14.3	14.0	15.2	14.8					
24.....			14.1	14.3	14.0	15.2	14.8					
25.....			14.1	14.3	14.0	15.2	14.8					
26.....			14.3	14.2	14.0	15.2	14.8					
27.....			14.3	14.2	14.0	15.1	14.8					
28.....			14.3	14.2	14.0	15.1	14.7					
29.....			14.3	14.1		15.1	14.65					
30.....			14.3	14.1		15.1	14.65					
31.....			14.3	14.1		15.0						



*Daily gage height, in feet, of Lake Mendota at Madison, Wis.,  
for the year ending Sept. 30, 1903.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1				12.5	12.3	12.4	12.8					
2				12.5	12.3	12.5	12.8					
3				12.5	12.3	12.5	12.8					
4				12.5	12.3	12.5	12.8					
5				12.5	12.3	12.5	12.7					
6				12.5	12.3	12.5	12.7					
7				12.5	12.3	12.5	12.7					
8				12.5	12.3	12.7	12.7					
9				12.3	12.3	12.8	12.7					
10				12.3	12.3	12.8	12.7					
11				12.3	12.3	12.8	12.7					
12				12.3	12.3	12.8	12.8					
13				12.3	12.3	12.8	12.8					
14				12.3	12.4	12.8	12.8					
15				12.3	12.4	12.8	12.8					
16				12.3	12.4	12.8	12.7					
17				12.3	12.4	12.8	12.7					
18				12.3	12.4	12.8	12.7					
19				12.3	12.4	12.9	12.7					
20				12.3	12.4	13.0	12.7					
21				12.3	12.4	13.0	12.65					
22				12.3	12.4	13.0	12.6					
23				12.3	12.4	13.0	12.6					
24				12.3	12.4	13.0	12.6					
25				12.3	12.4	13.0	12.6					
26				12.3	12.4	13.0	12.55					
27				12.3	12.4	12.9	12.5					
28				12.3	12.4	12.9	12.5					
29				12.3		12.9	12.5					
30				12.3		12.9	12.5					
31				12.3		12.8						

### PECATONICA RIVER AT DILL, WIS.

**Location.**—At Illinois Central Railroad bridge at Dill (Ramona P. O.) Wis., 9 miles above the Illinois state line, about 1 mile above the junction of the East and West branches of the Pecatonica River. Skinner Creek enters from the left about 1 mile below the station.

**Records available.**—February 9 to September 30, 1914.

**Drainage area.**—959 square miles.

**Gage.**—Cast iron staff gage fastened to downstream side of the left-hand abutment; read twice daily, morning and evening, to quarter tenths; limits of use: hundredths below 1.0 foot, half tenths between 1.0 and 2.0 feet, and tenths above 2.0 feet.

**Control.**—Sandy; likely to shift during all periods of the year.

**Discharge measurements.**—At low and medium stages made from upstream side of highway bridge about 400 feet above the gage; during extremely high water considerable water overflows to the left of this highway bridge, and measurements are made from the railroad bridge to which the gage is attached.

**Regulation.**—Operation of power plants above the station causes little if any diurnal fluctuation noticeable at the gage.

**Winter flow.**—Discharge relation affected by ice; flow determined from discharge measurements made through the ice.

**Accuracy.**—Records good.

*Discharge measurements of Pecatonica River at Dill, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
February 9 (a).....	Canfield and Hoyt.....	1.80	325
March 5 (a).....	H. C. Beckman.....	3.63	765
April 17 (b).....	W. G. Hoyt.....	1.65	449
May 13.....	M. F. Rather.....	2.80	883
May 14.....	M. F. Rather.....	1.90	546
June 20.....	M. F. Rather.....	3.35	1,050
July 22.....	W. G. Hoyt.....	1.20	352
August 27.....	H. C. Beckman.....	.79	274
September 17.....	W. G. Hoyt.....	8.97	2,890
September 18.....	W. G. Hoyt.....	6.06	1,630

(a) Measurement made under complete ice cover.

(b) Control clear of ice.

*Daily gage height, in feet, of Pecatonica River at Dill, Wis.,  
for the year ending Sept. 30, 1914.*

[Edward Kuhl, observer]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1.....						5.5	2.1	1.5	1.7	1.9	1.1	3.6
2.....						6.3	2.3	1.5	2.2	1.8	1.1	2.8
3.....						5.8	2.1	1.5	1.6	1.7	1.1	1.4
4.....						4.4	2.1	1.8	1.45	1.65	1.1	1.15
5.....						3.9	1.9	2.1	1.9	1.6	1.1	1.1
6.....						4.2	1.85	1.8	2.6	1.6	1.1	1.1
7.....						4.6	1.85	1.55	2.4	1.75	1.1	1.15
8.....						4.4	1.85	1.5	1.8	1.55	1.1	1.15
9.....					1.8	4.2	1.85	1.5	1.65	1.45	1.1	1.1
10.....						3.9	1.85	1.45	1.6	1.4	1.1	1.15
11.....						3.6	1.85	2.2	1.5	1.35	1.1	1.2
12.....						3.2	1.8	2.8	1.5	1.3	1.05	1.35
13.....					1.85	3.2	1.7	2.7	1.5	1.4	1.05	1.3
14.....					1.85	4.0	1.65	2.1	1.55	1.6	1.05	2.5
15.....					1.85	4.4	1.6	1.7	1.8	1.5	.94	11.4a
16.....					1.85	4.3	1.6	1.5	1.9	1.45	1.4	11.1a
17.....					1.75	2.2	1.6	1.5	1.7	1.5	1.8	9.6a
18.....					1.75	2.1	1.65	1.5	1.5	1.45	1.5	5.1
19.....					1.75	1.9	1.65	1.5	1.45	1.3	1.5	2.9
20.....					1.75	1.4	1.6	1.5	1.45	1.2	2.2	1.95
21.....					1.75	1.6	1.6	1.5	1.45	1.2	1.6	1.9
22.....					1.80	1.55	1.6	1.5	1.95	1.2	1.3	1.8
23.....					1.80	1.55	1.6	1.5	3.0	1.2	1.3	1.7
24.....					1.85	1.5	1.6	1.25	2.7	1.35	1.2	1.7
25.....					1.85	1.45	2.6	2.9	2.4	2.8	1.05	1.55
26.....					1.8	2.2	2.6	2.2	3.2	2.7	1.0	1.5
27.....					1.7	2.6	1.85	1.6	4.8	1.35	.95	1.5
28.....					1.9	2.3	1.65	2.6	4.6	1.25	.96	1.5
29.....						2.5	1.65	4.3	3.0	1.2	1.0	1.5
30.....						2.5	1.5	4.5	1.8	1.2	1.1	1.45
31.....						1.9		2.8		1.15	1.05	

(a) Estimated; gage height for crest of flood determined by engineers of the Survey from point marked by the observer  
NOTE:—Discharge relation affected by ice about Feb. 9 to Mar. 20.

Daily discharge, in second-feet, of Pecatonica River at Dill, Wis.,  
for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1							613	411	468	539	327	1,120
2							689	411	651	502	327	879
3							613	411	438	468	327	387
4							613	502	399	453	327	336
5							539	613	539	438	327	327
6							520	502	803	438	327	327
7							520	424	727	485	327	336
8							520	411	502	424	327	336
9							520	411	453	399	327	327
10							520	399	438	387	327	336
11							520	651	411	376	327	345
12							502	879	411	365	318	376
13							468	841	411	387	318	365
14							453	613	424	438	318	765
15							438	468	502	411	300	4,110
16							438	411	539	399	387	3,960
17							438	411	468	411	502	3,210
18							453	411	411	399	411	1,400
19							453	411	399	365	411	917
20							438	411	399	345	651	558
21						438	438	411	399	345	438	539
22						424	438	411	558	345	365	502
23						424	438	411	953	345	365	468
24						411	438	355	841	376	345	468
25						399	803	917	727	879	318	424
26						651	803	651	1,020	841	310	411
27						803	520	438	1,340	376	302	411
28						689	453	803	1,310	355	303	411
29						765	453	1,260	953	345	310	411
30						765	411	1,290	502	345	327	399
31						539		879		336	318	

NOTE:—Daily discharge computed from a rating curve fairly well defined between 260 and 2,910 second-feet (gage heights, 0.7 and 9.0 feet).  
Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, as follows: Feb. 9—20, 320 second-feet; Feb. 21—28, 290 second-feet; Mar. 1—10, 800 second-feet and Mar. 11—20, 680 second-feet.

Monthly discharge of Pecatonica River at Dill, Wis.,  
for the year ending Sept. 30, 1914.

[Drainage area, 959 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
February (9-28)			308	0.321	0.24	C
March			681	.710	.82	C
April	803	411	515	.537	.60	A
May	1,290	355	575	.600	.69	B
June	1,340	399	613	.639	.72	A
July	879	336	430	.448	.52	A
August	651	300	352	.367	.42	A
September	4,110	327	839	.875	.98	B

## SUGAR RIVER NEAR BRODHEAD, WIS.

**Location.**—At highway bridge 2 miles southwest of the village of Brodhead, Wis., and about 12 miles above the Illinois state line. Jordan Creek enters from the right about 2 miles below the station, and Little Jordan Creek also from the right, about 4 miles above the station.

**Records available.**—February 7 to September 30, 1914.

**Drainage area.**—529 square miles.

**Gage.**—Chain gage attached to downstream side of highway bridge; read twice daily, morning and evening, to quarter tenths; limits of use: hundredths below 1.0 foot, half tenths between 1.0 and 2.5 feet, and tenths above 2.5 feet.

**Control.**—Bed of river sandy, may shift during high stages.

**Discharge measurements.**—Made from upstream side of bridge at medium and high stages; at low stages by wading.

**Winter flow.**—Discharge relation affected by ice; discharge determined from measurements made through the ice.

**Regulation.**—During extremely low water there may be some diurnal fluctuation caused by the operation of power plants above the gage, especially the plant at Brodhead.

**Accuracy.**—Rating curve well defined, records good.

*Discharge measurements of Sugar River near Brodhead, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
Feb. 7 (a).....	Hoyt and Canfield.....	3.55	223
Mar. 4 (a).....	H. C. Beckman.....	3.25	391
Mar. 27 (b).....	G. H. Canfield.....	2.04	394
Apr. 16.....	W. G. Hoyt.....	1.59	268
May 13.....	M. F. Rather.....	2.65	664
May 14.....	M. F. Rather.....	2.56	598
June 28.....	M. F. Rather.....	3.87	1,140
June 29.....	M. F. Rather.....	3.61	1,010
July 22.....	W. G. Hoyt.....	1.52	273
Aug. 27 (c).....	H. C. Beckman.....	1.36	207
Sept. 16.....	W. G. Hoyt.....	7.66	4,010
Sept. 16.....	W. G. Hoyt.....	7.13	3,200
Sept. 17.....	W. G. Hoyt.....	5.73	2,120

(a) Nearly complete ice cover below gage.

(b) No ice on control.

(c) Measurement made by wading 300 ft. above gage.

*Daily gage height, in feet, of Sugar River near Brodhead, Wis.,  
for the year ending Sept. 30, 1914.*

[Arthur Christensen, observer].

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1						2.4	2.45	1.75	1.65	2.15	1.35	1.45
2						3.2	2.4	1.7	1.6	1.8	1.15	1.3
3						3.2	2.25	1.4	1.55	1.6	1.4	1.3
4						3.2	2.05	1.75	1.6	1.5	1.3	1.2
5						3.2	1.85	1.9	1.55	1.65	1.4	1.2
6							2.9	1.95	2.0	1.6	1.1	1.15
7					3.3	2.8	2.0	1.7	1.55	1.65	1.3	1.3
8					2.2	2.5	1.9	1.6	1.55	3.0	1.35	1.35
9					2.25	2.5	1.8	1.5	1.5	1.85	.90 <sub>a</sub>	1.3
10					2.05	2.2	1.8	1.35	1.45	1.5	1.35	1.3
11					1.9	2.15	1.75	1.75	1.4	1.4	1.3	1.15
12					1.9	2.15	1.65	2.0	1.3	1.3	1.3	1.25
13					2.0	2.15	1.65	2.3	1.4	1.4	1.3	.80 <sub>a</sub>
14					2.0	2.7	1.55	2.5	1.35	1.6	1.3	1.7
15					1.95	3.2	1.55	1.95	1.5	1.55	1.3	8.1
16					2.15	3.3	1.6	1.75	1.6	1.45	.92 <sub>a</sub>	7.4
17					2.05	2.6	1.65	1.6	1.65	1.6	1.25	5.5
18					2.05	2.1	1.65	1.6	1.5	1.4	1.4	4.0
19					2.05	1.85	1.6	1.5	1.4	1.1	1.35	3.0
20					2.1	1.8	1.6	1.75	1.5	1.25	1.3	1.9
21					2.1	1.7	1.65	1.5	1.45	1.35	1.3	1.9
22					1.8	1.6	1.55	1.5	1.6	1.2	1.5	1.4
23					2.25	1.7	1.55	1.6	1.9	1.1	1.05 <sub>a</sub>	1.45
24					2.15	1.7	1.5	1.6	2.1	1.0	1.4	1.4
25					2.15	1.6	1.65	1.65	1.8	1.2	1.45	1.6
26					2.0	1.75	1.8	1.9	1.85	1.15	1.5	1.7
27					2.15	2.0	2.0	1.9	2.8	1.4	1.4	1.3 <sub>a</sub>
28					2.3	2.15	1.9	1.8	3.8	1.25	1.4	1.55
29						2.4	2.05	1.8	3.4	1.2	1.4	1.3
30						2.5	2.05	1.8	2.8	1.4	.45 <sub>a</sub>	1.55
31						2.6		1.7		1.35	1.40	

(a) Sunday.

NOTE:—Discharge relation affected by ice about Feb. 7 to Mar. 20.

Daily discharge, in second-feet, of Sugar River near Brodhead, Wis.,  
for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1							556	322	292	450	212	237
2							538	307	278	337	166	199
3							484	224	264	278	224	199
4							416	322	278	250	199	176
5							352	368	264	292	224	176
6							384	400	278	307	156	166
7							400	307	264	292	199	199
8							368	278	264	766	212	212
9							337	250	250	352	a124	199
10							337	212	237	250	212	199
11							322	322	224	224	199	166
12							292	400	199	199	199	188
13							292	502	224	224	199	a110
14							264	575	212	278	199	307
15							264	384	250	264	199	4,750b
16							278	322	278	237	a127	3,600
17							292	278	292	278	188	1,980
18							292	278	250	224	224	1,190
19							278	250	224	156	212	766
20							278	322	250	188	199	368
21						307	292	250	237	212	199	368
22						278	264	250	278	176	250	224
23						307	264	278	368	156	a148	237
24						307	250	278	433	140	224	224
25						278	292	292	337	176	237	278
26						322	337	368	352	166	250	307
27						400	400	368	688	224	224	a199
28						450	368	337	1,100	188	224	264
29						538	416	337	928	176	224	199
30						575	416	337	688	224	ac74	264
31						612		307		212	224	

(a) Sunday  
(b) Discharge at crest of flood (gage height, 9.0 feet) about 6,500 second-feet.  
(c) Approximate; based on extension of rating curve.  
NOTE:—Daily discharge computed from a rating curve well defined between 199 and 4,580 second-feet (gage heights, 1.3 and 8.0 feet).  
Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, as follows: Feb. 7-20, 215 second-feet; Feb. 21-28, 240 second-feet; Mar. 1-10, 445 second-feet; and Mar. 11-20, 435 second-feet.

Monthly discharge of Sugar River near Brodhead, Wis.,  
for the year ending Sept. 30, 1914.

[Drainage area, 529 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
February (7-28)			224	0.423	0.35	C
March	612		425	.803	.93	C
April	556	250	344	.650	.73	A
May	575	212	323	.611	.70	A
June	1,100	199	349	.660	.74	A
July	766	140	255	.482	.56	B
August	250	74	198	.374	.43	A
September	4,750	110	598	1.13	1.26	B

## LAKE SUPERIOR BASIN

## AMINICON RIVER NEAR AMINICON FALLS, WIS.

**Location.**—At highway bridge about three-fourths mile east of the settlement of Aminicon Falls, Wis., 500 feet above the Northern Pacific Railroad bridge, and 7 miles above mouth of river.

**Records available.**—March 17 to September 30, 1914.

**Drainage area.**—102 square miles.

**Gage.**—Chain gage fastened to upstream side of highway bridge; read once daily, to half tenths; limits of use: half tenths below and tenths above 2.5 feet.

**Control.**—Heavy gravel and small rock; probably permanent.

**Discharge measurements.**—Made from highway bridge or at low stages, by wading.

**Winter flow.**—Discharge relation affected by ice; flow determined from discharge measurements made through the ice.

**Accuracy.**—Records good.

*Discharge measurements of Aminicon River near Aminicon Falls, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
Feb. 19 (a).....	Hoyt and Canfield.....	0.80	6.6
Mar. 17 (b).....	H. C. Beckman.....	1.96	54.4
Apr. 11.....	M. F. Rather.....	1.36	64.6
June 4.....	M. F. Rather.....	1.70	157.
June 11.....	M. F. Rather.....	2.20	295.
Aug. 6.....	M. F. Rather.....	.70	15.
Aug. 6.....	M. F. Rather.....	.70	16.
Aug. 10.....	M. F. Rather.....	2.20	299.

(a) Measurement made through complete ice cover.

(b) Measurement made through partial ice cover.

# Railroad Commission Report

*Daily gage height, in feet, of Aminicon River near Aminicon Falls, Wis., for the year ending Sept. 30, 1914.*

[F. J. St Onge, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1							2.3	2.6	2.0	2.5	0.80	1.35
2							2.5	2.6	1.8	2.6	.8	1.4
3							2.6	2.7	1.8	2.3	.8	1.4
4							2.4	2.6	1.75	2.3	.8	1.4
5							2.4	2.6	1.85	2.2	.75	1.35
6							1.8	2.6	1.9	2.0	.7	1.3
7							2.0	2.5	2.6	1.9	.7	1.3
8							2.2	2.4	2.2	1.75	.7	1.25
9							2.0	2.4	2.8	1.6	.75	1.15
10							1.7	2.1	2.4	1.5	2.15	1.3
11							1.25	2.0	2.2	1.5	2.1	1.25
12							1.3	1.95	2.0	2.05	2.0	1.25
13							1.45	1.9	1.9	2.75	2.0	1.2
14							1.4	1.7	1.85	2.8	1.9	1.32
15							1.6	1.65	1.7	2.2	1.85	1.35
16								1.6	1.6	2.0	1.8	1.4
17						1.95	1.6	1.55	1.6	1.8	1.7	1.45
18						2.05	1.6	1.5	1.5	1.65	1.6	1.4
19						2.0	1.6	1.4	1.5	1.6	1.5	1.4
20						1.95	2.4	1.35	1.5	1.55	1.5	1.35
21						1.7	2.3	1.35	1.55	1.5	1.4	1.3
22						1.6	2.8	1.3	1.6	1.35	1.4	1.35
23						1.65	2.8	1.3	1.5	1.3	1.45	1.3
24						1.6	2.8	1.3	1.7	1.2	1.55	1.3
25						1.7	2.9	1.3	1.7	1.1	1.5	1.25
26						2.4	2.8	1.35	2.0	1.0	1.45	1.25
27						2.15	2.8	1.35	2.7	.95	1.4	1.2
28						2.2	3.0	1.35	2.6	.95	1.4	1.15
29						2.2	3.1	2.6	2.4	.9	1.3	1.05
30						2.2	2.8	2.7	2.4	.9	1.4	1.0
31						2.4		2.5		.85	1.4	

NOTE:—Discharge relation affected by ice about Mar. 17 to Apr. 14.



Daily discharge, in second-feet, of Aminicon River near Aminicon Falls, Wis.,  
for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1								455	233	412	23	90
2								455	180	455	23	98
3								500	180	333	23	98
4								455	168	333	23	98
5								455	192	297	19	90
6								455	205	233	15	82
7								412	455	205	15	82
8								371	297	168	15	74
9								371	547	136	19	60
10								264	371	116	280	82
11								233	297	116	264	74
12								219	233	248	233	74
13								205	205	524	233	67
14								157	192	547	205	85
15							186	146	157	297	192	90
16							a136	136	136	233	180	98
17							136	128	136	180	157	107
18							136	116	116	146	136	98
19							136	98	116	136	116	98
20							371	90	116	126	116	90
21							333	90	126	116	98	82
22							547	82	136	90	98	90
23							547	82	116	82	107	82
24							547	82	157	67	126	82
25							596	82	157	54	116	74
26							547	90	233	42	107	74
27							547	90	500	37	98	67
28							646	90	455	37	98	60
29							797	455	371	32	82	48
30							547	500	371	32	98	42
31								412		28	98	

(a) Interpolated.  
Note:—Daily discharge computed from a rating curve fairly well defined between 15 and 412 second-feet (gage heights, 0.7 and 2.5 feet).  
Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, as follows: Mar. 17-31, 55 second-feet; and Apr. 1-14, 60 second-feet.

Monthly discharge of Aminicon River near Aminicon Falls, Wis.,  
for the year ending Sept. 30, 1914.  
[Drainage area, 102 square miles.]

Month	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accu- racy.
	Maximum	Minimum	Mean	Per square mile.		
March (17-31)			55	0.539	0.30	D
April	797		252	2.47	2.76	C
May	500	82	251	2.46	2.84	B
June	547	116	238	2.33	2.60	B
July	547	28	189	1.85	2.13	B
August	280	15	110	1.08	1.24	B
September	107	42	81	.794	.89	B

**BRULE RIVER NEAR BRULE, WIS.**

**Location.**—At the Brule Outing Club, about 4½ miles downstream from Brule, and 9 miles above mouth of river.

**Records available.**—March 19 to September 30, 1914.

**Drainage area.**—162 square miles.

**Gage.**—Staff; low water section 0 to 7.9 feet, fastened to downstream side of Brule Outing Club boat landing; high water section 8.0 to 9.9 feet, fastened to tree on shore end of landing; gage read twice daily, morning and evening, to quarter tenths; limits of use: hundredths below 3.0 feet, half-tenths between 3.0 and 4.0 feet, and tenths above 4.0 feet.

**Control.**—Gravel; probably permanent.

**Discharge measurements.**—Made from a boat held in place by a wire across the river below gage, or at low stages, by wading.

**Winter flow.**—Discharge relation affected by ice; discharge determined from measurements made through the ice.

**Regulation.**—None except by natural storage in lakes Minnesuing and Nebagamin.

Data insufficient for estimates of daily and monthly discharge.

*Discharge measurements of Brule River near Brule, Wis., during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
Feb. 20 (a).....	Hoyt and Canfield.....	..... <sup>b</sup>	148
Mar. 18 (c).....	H. C. Beckman.....	3.05	182
Apr. 13 (c).....	M. F. Rather.....	3.19	238
June 10 (d).....	M. F. Rather.....	3.30	249
June 11 (d).....	M. F. Rather.....	3.30	250
Aug. 7 (d).....	M. F. Rather.....	2.90	145
Aug. 8 (d).....	M. F. Rather.....	2.90	147

(a) Complete ice cover below gage.

(b) Gage not installed when the measurement was taken.

(c) Measurement made from boat; no ice present.

(d) Measurement made by wading at a section 100 ft. below gage.

Daily gage height, in feet, of Brule River near Brule, Wis.,  
for the year ending Sept. 30, 1914.

[H. A. Wilcox, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1							3.3	4.0	3.45	4.0	2.95	3.15
2							3.2	3.9	3.4	3.8	2.91	3.2
3							3.15	3.9	3.3	3.6	2.90	3.1
4							3.05	4.2	3.3	3.6	2.90	3.1
5							3.1	4.1	3.4	3.5	2.90	3.05
6							3.05	4.0	3.5	3.4	2.90	3.05
7							3.1	3.9	3.4	3.3	2.90	3.0
8							3.05	3.85	3.6	3.25	2.95	3.0
9							3.0	3.75	3.6	3.2	3.1	3.0
10							3.05	3.7	3.4	3.15	3.4	3.05
11							3.05	3.6	3.3	3.1	3.2	3.1
12							3.3	3.55	3.2	3.3	3.2	3.1
13							3.15	3.5	3.2	3.4	3.2	3.1
14							3.25	3.4	3.15	3.3	3.1	3.25
15							3.3	3.4	3.1	3.3	3.1	3.2
16							3.35	3.35	3.1	3.25	3.45	3.15
17							3.35	3.35	3.05	3.2	3.25	3.15
18							3.45	3.3	3.1	3.15	3.2	3.1
19						2.96	4.0	3.25	3.2	3.1	3.1	3.1
20						2.95	3.65	3.25	3.1	3.05	3.1	3.05
21						2.91	4.0	3.3	3.1	3.05	3.05	3.1
22						2.90	4.0	3.25	3.2	3.0	3.05	3.2
23						2.90	3.9	3.25	3.2	3.1	3.15	3.15
24						2.92	3.9	3.2	3.3	3.05	3.15	3.1
25						3.2	4.2	3.2	3.3	3.0	3.1	3.1
26						3.4	4.0	3.3	3.2	3.0	3.1	3.05
27						3.2	3.9	3.2	4.4	3.0	3.1	3.0
28						3.0	4.2	3.2	4.6	2.98	3.1	3.0
29						2.96	4.4	3.9	4.1	2.96	3.05	3.0
30						3.25	4.2	3.6	3.8	2.95	3.05	3.0
31						3.5		3.5		2.95	3.05	

NOTE:—Discharge relation probably not materially affected by ice during the period when the above records were collected.

BAD RIVER NEAR ODANAH, WIS.

Location.—About 8 miles upstream from Odanah, Wis., 12 miles above the mouth. Potato River enters from the right about 8 miles above the station.

Drainage area.—607 square miles.

Records available.—July 31 to September 30, 1914.

Gage.—Gurley Automatic Water Stage Register, over wooden well on left bank; just above the first falls in the river above the mouth; well connected with the water by a 4½-inch galvanized steel pipe; well and gage covered with a regulation wooden shelter.

Control.—Rock outcrop about 200 feet below the gage; logs may possibly hang on ledge and cause backwater at gage.

Discharge measurements.—Made from a cable about 700 feet upstream from gage.

Regulation.—A number of small reservoirs are operated during the early spring and summer as an aid to log driving; during such periods the stage will fluctuate rapidly and the flow will not be the natural flow.

Winter flow.—Discharge relation affected by ice.

Cooperation.—Station maintained in cooperation with the U. S. Indian Service.

Data insufficient for estimates of daily or monthly discharge.

*Discharge measurements of Bad River near Odanah, Wis., during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
Feb. 29 (a)-----	Hoyt and Canfield-----		112
Aug. 1 (b)-----	W. G. Hoyt-----	1.04	182
Aug. 28 (c)-----	G. H. Canfield-----	1.26	305

(a) Measurement made under complete ice cover a short distance below cable site.

(b) Measurement made from cable. No rods were available for a wading measurement. While the velocity is small the 3-point method was used and it is believed that it is within 5 per cent.

(c) Measurement made by wading about 1 mile below cable.

*Daily gage height, in feet, of Bad River near Odanah, Wis.,  
for the year ending Sept. 30, 1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1											1.06	1.26
2											1.04	1.71
3												2.00
4												2.03
5												1.90
6												1.70
7												1.62
8												1.48
9												1.67
10												1.33
11											1.84	1.34
12											1.66	1.40
13												1.36
14												1.39
15												1.41
16												1.76
17												1.58
18												1.67
19												1.61
20												1.56
21												1.45
22											1.34	1.57
23											1.39	1.93
24											1.54	1.96
25											1.76	1.83
26											1.44	1.98
27											1.35	1.62
28											1.30	1.54
29											1.26	1.44
30											1.20	1.38
31										1.08	1.20	

## LAKE MICHIGAN BASIN

## MENOMINEE RIVER NEAR IRON MOUNTAIN, MICH.

**Location.**—At the Homestead Highway Bridge,  $3\frac{1}{2}$  miles south of Iron Mountain, Mich.

**Records available.**—September 4, 1902, to March 31, 1909; June 5, 1909, to July 31, 1914, when station was discontinued because reliable observer was not available.

**Drainage area.**—2,420 square miles.

**Gage.**—Standard chain gage attached to the bridge; read twice daily, morning and evening, to tenths; limits of use: tenths throughout entire range in stage. Staff gage from September 4, 1902, to May 18, 1904. The datum of gages has remained practically the same.

**Control.**—Permanent.

**Regulation.**—No storage reservoirs above the gaging station. Gage heights, however, show slight diurnal fluctuations due to operation of the Peninsular Power Co.'s plant above. The plant is run continuously but the load varies somewhat throughout the day.

**Winter flow.**—Prior to 1914 few discharge measurements had been made at Iron Mountain when ice was present. Information obtained from people well acquainted with conditions in the vicinity of the gage led to the assumption that discharge relation was not affected by ice; measurements made during 1914, show, however, that this assumption was incorrect.

**Accuracy.**—In consideration of the fact that ice will affect the discharge relation, and that during certain portions of the year logs might have been present, winter records previous to December 1, 1913, should be used with caution.

*Discharge measurements of Menominee River near Iron Mountain, Mich., during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-Feet
Oct. 2.....	S. B. Soulé .....	3.17	2,200
Oct. 3.....	S. B. Soulé .....	2.76	1,960
Jan. 19 (a).....	G. H. Canfield.....	1.95	1,390
Feb. 23 (b).....	H. C. Beckman.....	1.95	949
Mar. 24 (c).....	O. A. Steller.....	1.82	1,130
Apr. 14.....	M. F. Rather.....	2.05	1,440
May 4.....	G. H. Canfield.....	11.31	10,400

(a) Ice along shores.

(b) Nearly complete ice cover.

(c) Original notes lost; data as given from unchecked computations.

# Railroad Commission Report

*Daily gage height, in feet, of Menominee River near Iron Mountain, Mich., for the year ending Sept. 30, 1914.*

[A. J. St. Arnould, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept
1	2.4	4.0	3.6	2.4			2.8	11.8	5.4	4.1		
2	2.8	4.0	3.8		2.2	1.9	2.4	12.3	5.4	4.4		
3	3.0	3.4	3.2	1.3			3.0	11.8	5.8	4.2		
4	2.8	2.8	3.0				3.2	11.8	5.2	4.6		
5	3.5	1.6	2.9	2.6	2.0	1.8	3.0	11.7	6.1			
6	3.5	1.9	2.4				2.6	11.2	6.2	4.4		
7	4.2	2.0	3.0		2.1	1.9	2.4	10.1	6.1	4.1		
8	1.6	2.0	2.4	1.9			2.3	9.2	5.4	4.7		
9	1.9	2.0	1.9		2.2	3.5	2.0	8.4	6.0	4.6		
10	3.6	2.0	3.0	2.0			2.0	7.4	4.3	4.1		
11	3.6	1.8	3.0				2.0	7.4	6.1	5.2		
12	4.0	2.0	3.0	2.2	2.7	2.0	2.1	5.6	5.2	5.8		
13	4.0	2.3	3.0				2.1	5.7	5.1	6.4		
14	4.0	2.5	2.8		2.7	1.9	2.1	6.4	5.4	6.2		
15	4.0	2.5	2.8	1.4			2.1	7.2	6.4	6.3		
16	3.8	2.5	3.0		2.0	1.9	2.1	7.4	7.2	6.8		
17	2.2	2.6	3.0	1.9			2.4	7.8	8.1	4.7		
18	2.4	2.6	3.0				2.4	8.9	7.4	4.3		
19	2.4	2.9	3.0	1.9	2.0	1.9	2.4	5.6	5.1	4.6		
20	2.8	2.9	3.0				3.0	5.4	5.2	3.7		
21	2.8	2.9	3.0		2.0	1.8	3.0	6.6	5.7	3.6		
22	2.6	2.9	2.4	1.9			3.6	7.1	5.9	4.0		
23	2.6	3.0	2.4		2.0	1.6	4.1	6.7	5.7	5.4		
24	2.8	3.0	2.4	2.0			6.0	6.9	6.1	4.3		
25	2.8	4.8	2.4				7.3	5.4	5.4	3.2		
26	4.8	4.8	2.4	2.0	1.7	2.1	7.4	5.6	5.3	4.4		
27	4.8	4.8	2.4				8.1	7.1	4.6	4.2		
28	4.6	4.6	2.4		1.9	2.2	8.1	6.9	4.8	4.6		
29	4.6	4.6	2.4	2.0			10.2	6.4	4.3	6.1		
30	4.6	4.6	2.4			2.6	10.0	7.6	5.2	6.0		
31	4.6		2.4	2.0		2.8		7.5		6.2		

NOTE:—Discharge relation affected by ice about Jan. 1 to Mar. 31.

Daily discharge, in second-feet, of Menominee River near Iron Mountain, Mich., for the years ending Sept. 30, 1902-1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1902												
1												
2												
3												
4												1,480
5												1,280
6												1,540
7												1,700
8												1,770
9												1,570
10												1,490
11												1,460
12												1,510
13												1,310
14												1,240
15												1,190
16												1,160
17												1,160
18												1,190
19												1,120
20												1,120
21												1,030
22												1,190
23												1,230
24												1,210
25												1,200
26												1,160
27												1,160
28												1,120
29												1,140
30												1,250
31												
1902-3												
1	1,330	1,890	1,280				3,460	6,400	8,020	2,720	4,720	3,280
2	1,240	2,080	1,680				3,820	6,290	6,500	3,550	4,680	2,980
3	1,250	2,180	2,080				4,220	8,340	4,770	4,950	3,360	2,720
4	1,190	2,020	1,700				4,820	7,380	6,020	2,830	4,180	2,580
5	1,250	2,120	1,440				1,700	8,220	5,470	2,580	5,040	2,680
6	1,270	2,180	1,510				3,510	8,250	4,950	5,820	6,450	2,940
7	1,280	1,870	1,700				6,780	8,580	2,500	4,770	7,630	3,440
8	1,330	1,940	2,010				4,100	8,410	3,590	4,470	7,500	4,260
9	1,390	1,870	2,540				4,100	8,050	3,590	4,060	5,620	5,090
10	1,090	1,810	2,470				4,550	6,340	3,280	3,900	5,140	5,320
11	1,220	1,840	2,650				4,720	7,600	2,870	3,860	5,180	4,340
12	1,250	2,410	2,470				5,660	6,560	2,580	4,510	5,040	4,100
13	2,120	3,590	2,260				5,560	8,830	3,240	3,440	4,950	6,020
14	2,180	4,570	2,150				5,140	8,220	5,180	3,400	4,020	6,560
15	1,850	5,310	2,120				5,870	7,860	3,320	2,940	4,180	7,630
16	1,420	5,010	2,150				5,940	7,200	3,280	2,500	4,180	9,670
17	1,310	4,900	1,910				5,970	6,020	3,360	2,260	2,720	10,600
18	1,490	4,220	2,010				6,240	4,700	3,550	2,040	2,980	9,530
19	1,280	3,980	1,960				6,780	5,970	2,760	2,120	3,130	8,220
20	1,310	3,710	2,040				5,870	7,280	3,550	1,810	2,980	7,260
21	1,260	3,300	2,040				6,000	7,700	1,740	2,290	2,760	6,450
22	1,310	3,280	1,920				5,470	5,820	2,290	3,090	2,720	5,280
23	1,330	2,870	1,810				5,320	8,150	2,010	2,320	2,760	5,370
24	1,820	2,880	1,750				6,080	5,230	2,290	2,290	2,760	4,820
25	2,080	2,540	1,770				5,920	6,240	2,080	2,400	2,470	4,430
26	2,380	2,430	1,670				6,180	5,560	1,540	3,550	2,980	3,280
27	2,180	2,220	1,610				5,420	6,960	2,790	3,940	3,440	4,100
28	2,620	1,960	1,540				4,900	9,530	2,010	4,260	2,830	3,550
29	2,270	1,910	1,640				5,250	11,600	1,840	5,280	2,870	3,240
30	2,100	1,960	1,670				5,870	9,110	1,540	6,670	2,940	2,940
31	2,040		1,610					10,000		5,520	3,360	

*Daily discharge, in second-feet, of Menominee River near Iron Mountain, Mich., for the years ending Sept. 30, 1902-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1903-4</b>												
1	3,170	2,790	2,650				3,440	6,340	6,960	3,400	1,770	1,410
2	3,240	2,790	2,680				3,360	6,400	5,370	1,770	2,430	2,330
3	3,860	2,760	2,610				3,200	7,260	4,220	1,670	2,150	2,720
4	5,040	3,020	2,610				3,400	8,550	4,770	2,150	2,220	3,670
5	6,130	2,940	2,720				3,790	6,620	8,410	2,080	1,090	3,170
6	5,920	2,790	2,650				3,590	8,550	5,720	2,720	2,010	2,940
7	6,080	2,530	2,500				3,470	7,020	7,380	2,650	1,090	3,020
8	5,970	2,680	2,470				3,440	9,530	5,920	2,650	1,030	3,020
9	5,520	2,580	2,470				4,550	11,700	7,080	3,090	1,190	2,720
10	5,280	2,500	2,260				a4,680	11,800	7,020	2,430	2,360	2,330
11	5,140	3,020	2,150				3,020	11,500	5,920	3,020	2,790	2,150
12	4,950	3,670	1,940				2,790	10,500	5,140	3,090	3,240	2,290
13	4,720	2,580	1,870				2,680	9,950	5,140	1,410	2,940	1,910
14	4,300	2,360	1,810				2,720	9,740	4,430	3,170	1,480	2,120
15	4,100	2,400	1,840				2,760	8,480	4,020	2,760	1,570	2,580
16	4,020	2,610	1,810				3,020	7,700	3,670	3,170	2,720	2,500
17	3,590	2,400	1,810				2,900	6,560	3,400	1,310	2,650	2,080
18	3,630	2,120	1,770				3,130	6,620	3,320	2,400	2,940	2,330
19	3,630	1,980	1,980				3,240	6,620	2,720	2,260	2,290	1,940
20	3,630	2,120	1,770				3,170	4,720	2,580	1,870	2,330	2,010
21	3,860	1,870	1,740				3,200	3,630	2,580	3,170	1,810	2,180
22	3,940	2,400	1,700				3,240	4,640	3,240	2,010	2,680	1,740
23	3,200	2,200	1,770				4,060	4,600	2,720	1,740	2,540	1,910
24	3,090	2,290	1,740				4,550	5,470	2,720	1,090	2,870	2,790
25	2,980	2,150	1,770				5,760	6,720	4,060	2,050	2,870	2,870
26	2,790	2,220	1,980				5,660	8,410	5,620	1,160	2,500	2,900
27	2,870	2,120	2,320				5,870	a11800	5,180	2,010	2,010	3,050
28	2,830	2,220	2,400				6,840	10,200	4,180	1,220	1,740	2,940
29	2,790	2,290	2,290				6,180	8,970	5,140	2,290	1,480	2,580
30	2,760	2,650	2,260				8,150	7,260	5,140	1,190	1,570	2,480
31	2,720		2,320					6,450		1,090	1,510	
<b>1904-5</b>												
1	2,260	2,290	1,820				5,820	7,140	2,650	4,100	3,090	2,080
2	2,050	2,680	1,672				5,230	6,900	4,180	7,140	2,720	2,870
3	1,980	3,020	1,680				5,140	7,020	1,810	4,860	2,500	5,620
4	1,840	2,760	1,710				5,420	7,760	1,810	5,520	2,580	6,450
5	2,050	2,400	1,910				6,340	7,890	2,580	6,450	2,500	6,240
6	2,120	2,580	1,870				6,450	7,890	4,770	6,450	2,540	5,420
7	1,910	2,790	1,740				5,820	8,020	5,320	6,020	2,430	4,770
8	2,150	3,590	2,160				5,230	7,890	5,720	6,020	2,400	3,940
9	2,790	3,020	2,180				5,230	8,690	4,770	4,340	2,500	3,400
10	5,140	2,290	2,200				5,040	8,410	5,520	3,090	2,430	3,240
11	6,020	2,360	2,050				5,420	7,760	3,860	3,860	2,500	3,020
12	6,720	2,360	1,870				5,720	7,630	4,340	3,630	2,360	2,720
13	6,240	2,400	1,750				5,820	7,760	4,260	4,020	2,360	2,470
14	5,760	2,260	1,720				5,820	6,780	4,260	3,860	2,430	2,220
15	4,860	2,180	1,750				5,140	5,820	4,340	4,180	2,430	2,180
16	4,430	2,260	1,750				4,860	7,140	4,860	3,170	2,080	2,650
17	4,140	2,080	1,850				4,600	8,550	5,720	3,240	1,870	3,170
18	3,940	2,830	1,870				4,680	9,110	5,620	4,600	1,980	3,240
19	3,860	2,330	1,850				4,340	9,250	9,250	2,870	1,870	3,550
20	3,710	2,160	1,720				4,340	8,020	8,020	2,500	2,010	3,630
21	3,710	2,150	1,680				4,260	9,250	5,140	1,670	2,020	3,550
22	3,750	1,990	1,820				4,510	5,820	6,900	1,570	1,710	3,240
23	3,750	2,060	1,790				4,680	5,820	4,950	2,180	1,540	2,790
24	3,830	2,120	1,810				4,510	5,820	4,950	2,870	1,680	2,580
25	3,750	2,050	a1,830				4,340	4,510	4,340	2,720	1,730	2,540
26	3,840	1,820	1,850				4,860	3,860	4,180	2,720	1,670	2,330
27	3,750	1,490	1,750				5,230	6,020	6,240	2,500	1,730	2,180
28	3,590	1,380	1,670				6,020	4,180	6,020	2,900	1,610	2,260
29	3,200	1,540	a1,810				6,450	3,550	6,450	3,400	1,620	2,120
30	3,170	1,590	a1,870				7,140	4,340	7,500	3,470	1,590	2,080
31	2,870		1,940					2,500		3,400	1,540	

(a) Interpolated.



*Daily discharge, in second-feet, of Menominee River near Iron Mountain, Mich., for the years ending Sept. 30, 1902-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1905-6</b>												
1	2,090	2,430	1,410	1,860	3,360	2,220	2,790	7,020	7,380	7,890	2,010	1,940
2	2,080	2,430	1,380	1,820	3,020	2,220	2,870	7,630	5,230	6,780	2,150	2,650
3	1,870	2,360	1,710	1,810	2,940	2,180	3,170	8,150	5,420	5,920	1,980	2,290
4	1,820	2,220	1,740	1,870	2,980	2,150	3,510	8,280	3,790	7,140	1,810	2,080
5	1,820	2,220	1,710	1,870	2,940	2,080	3,630	8,670	5,420	4,860	2,010	1,680
6	1,770	2,180	1,980	1,940	2,870	2,090	3,650	7,760	4,510	4,680	2,760	1,870
7	1,810	2,140	2,430	1,930	2,790	2,150	3,710	6,670	6,900	3,020	3,130	1,740
8	1,820	2,160	2,330	1,870	2,760	2,090	3,750	7,020	9,840	2,940	2,940	1,810
9	1,810	2,220	2,360	1,810	2,650	2,150	3,980	6,020	10,700	2,650	2,790	1,940
10	1,770	2,220	2,360	1,810	2,610	2,150	4,600	5,720	9,320	3,510	2,580	1,610
11	1,810	2,220	2,430	1,740	2,500	2,220	5,570	6,240	6,560	3,240	2,360	1,540
12	1,840	2,220	2,360	1,810	2,500	2,260	6,340	5,710	6,130	3,170	2,430	1,810
13	1,870	2,150	2,540	2,120	2,520	2,290	6,730	5,620	5,140	2,870	2,050	2,940
14	1,910	2,210	2,430	2,540	2,500	2,220	7,500	4,600	3,400	3,020	1,810	2,790
15	2,080	2,290	2,400	2,650	2,430	2,220	9,710	4,680	2,720	3,400	1,870	2,720
16	2,150	2,330	2,500	2,650	2,400	2,220	10,300	4,950	3,400	3,170	1,940	2,870
17	2,090	2,260	2,430	2,580	2,400	2,180	10,800	4,770	2,150	3,020	3,020	2,720
18	2,210	2,150	2,400	2,470	2,360	2,150	11,200	5,140	1,810	2,790	2,790	2,500
19	2,290	2,140	2,220	2,220	2,470	2,220	13,200	4,680	1,740	2,650	2,290	2,290
20	2,430	2,150	2,180	2,010	2,500	2,180	14,100	3,940	2,430	3,090	2,150	2,150
21	2,580	2,260	2,120	2,010	2,430	2,180	15,100	3,830	3,550	2,870	1,940	2,050
22	2,580	2,260	2,010	2,080	2,430	2,260	14,800	3,200	3,510	2,500	2,120	2,220
23	2,580	2,290	1,940	2,050	2,400	2,260	13,400	1,740	3,170	3,090	2,360	2,150
24	2,580	2,260	1,940	2,080	2,400	2,180	11,900	3,320	3,090	2,870	2,650	2,080
25	2,610	2,330	1,960	2,360	2,360	2,150	11,500	3,470	2,220	2,790	2,870	2,010
26	2,580	2,360	1,980	3,050	2,400	2,260	9,840	4,100	1,940	2,360	3,020	1,980
27	2,580	2,260	2,010	3,590	2,360	2,430	9,060	5,420	6,840	2,790	2,790	2,080
28	2,500	2,150	1,910	3,940	2,260	2,500	8,410	5,140	7,630	2,650	2,650	2,050
29	2,360	1,870	1,810	3,710	-----	2,540	8,150	6,130	7,380	2,500	2,580	2,010
30	2,360	1,410	1,810	3,550	-----	2,610	7,890	6,780	7,760	2,220	2,400	2,080
31	2,430	-----	1,860	3,550	-----	2,650	-----	7,500	-----	2,080	2,080	-----
<b>1906-7</b>												
1	2,150	-----	-----	-----	-----	-----	5,970	6,300	7,220	4,580	1,120	1,280
2	1,710	-----	-----	-----	-----	-----	5,970	6,520	6,740	1,460	1,280	1,090
3	1,740	-----	-----	-----	-----	-----	5,970	7,100	6,520	4,780	1,220	1,140
4	1,810	-----	-----	-----	-----	-----	6,400	8,590	6,300	4,490	1,220	1,280
5	1,870	-----	-----	-----	-----	-----	6,300	8,590	7,080	4,020	1,060	1,280
6	1,840	-----	-----	-----	-----	-----	5,970	8,830	6,300	3,320	1,000	1,520
7	1,810	-----	-----	-----	-----	-----	6,180	8,830	3,930	3,320	1,120	1,520
8	1,870	-----	-----	-----	-----	-----	6,300	9,310	4,020	3,080	1,170	1,460
9	1,940	-----	-----	-----	-----	-----	5,970	9,560	4,020	3,000	1,170	1,400
10	1,910	-----	-----	-----	-----	-----	5,560	7,220	4,110	2,690	1,400	1,340
11	2,050	-----	-----	-----	-----	-----	5,260	8,350	4,490	2,620	1,340	1,340
12	1,980	-----	-----	-----	-----	-----	5,160	8,470	3,490	1,640	1,280	1,460
13	2,010	-----	-----	-----	-----	-----	4,960	8,710	2,320	3,490	1,460	1,460
14	2,050	-----	-----	-----	-----	-----	4,780	9,440	2,110	3,490	1,340	1,400
15	1,810	-----	-----	-----	-----	-----	4,680	13,200	2,920	3,400	1,280	1,520
16	2,400	-----	-----	-----	-----	-----	4,580	14,200	2,320	2,540	1,220	1,520
17	2,980	-----	-----	-----	-----	-----	4,490	15,000	1,900	1,900	1,280	1,700
18	3,050	-----	-----	-----	-----	-----	4,490	14,500	2,110	2,690	1,280	1,700
19	3,710	-----	-----	-----	-----	-----	4,400	12,400	2,620	1,580	1,400	2,760
20	-----	-----	-----	-----	-----	-----	4,300	12,800	2,180	1,460	1,400	3,400
21	-----	-----	-----	-----	-----	-----	4,490	11,300	2,540	1,460	2,040	3,580
22	-----	-----	-----	-----	-----	-----	4,780	10,200	2,760	1,580	1,900	3,580
23	-----	-----	-----	-----	-----	-----	5,970	12,300	2,840	1,170	1,540	4,680
24	-----	-----	-----	-----	-----	2,760	7,080	10,700	2,320	1,280	2,320	4,020
25	-----	-----	-----	-----	-----	3,160	7,220	9,070	3,320	1,120	1,340	4,020
26	-----	-----	-----	-----	-----	3,580	7,330	9,070	3,580	1,060	2,250	3,930
27	-----	-----	-----	-----	-----	3,980	7,680	9,070	4,300	1,280	2,140	3,750
28	-----	-----	-----	-----	-----	5,310	7,560	8,830	5,460	1,170	2,040	3,660
29	-----	-----	-----	-----	-----	5,860	7,330	8,710	4,870	1,170	1,900	3,240
30	-----	-----	-----	-----	-----	6,180	6,300	7,890	4,680	1,280	1,870	2,690
31	-----	-----	-----	-----	-----	6,180	-----	7,220	-----	1,120	1,400	-----

*Daily discharge, in second-feet, of Menominee River near Iron Mountain, Mich., for the years ending Sept. 30, 1902-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1907-8</b>												
1	2,460	1,770	1,400					10,400		1,970	2,920	1,000
2	2,390	1,770	1,400					8,950		1,220	2,620	1,000
3	2,320	1,900	1,460					8,470		1,170	2,180	1,060
4	2,390	2,040	1,460					8,000		1,400	1,840	1,060
5	2,390	1,840	1,580					7,680		1,280	1,770	1,120
6	2,390	1,800	1,640					6,080		1,840	1,460	1,120
7	2,390	1,840						6,080		1,770	1,460	1,060
8	2,250	1,840						6,300		3,580	1,400	1,060
9	2,620	1,840						5,660		2,320	1,400	1,060
10	2,540	a1,750						5,460		2,040	1,280	1,000
11	2,460	a1,660						4,780		1,900	1,170	1,000
12	2,540	1,580						4,020		1,700	1,170	1,000
13	2,540	1,460						3,240		1,580	1,120	1,000
14	2,620	1,280						2,390	3,000	1,280	1,170	895
15	2,320	1,340						3,580	2,460	1,520	1,220	895
16	2,320	1,400					8,950	3,660	2,840	1,520	1,220	895
17	2,390	1,520					9,190	4,960	2,390	1,840	1,220	895
18	2,180	1,770					8,350	3,400	2,040	2,690	1,220	1,170
19	2,040	1,640					8,000	3,930	1,460	2,180	1,220	950
20	2,040	1,580					7,680	5,160	1,460	2,390	1,170	950
21	2,110	1,640					8,120	4,870	1,400	2,180	1,060	700
22	1,840	1,770					8,120	4,680	1,400	1,840	1,060	745
23	1,840	1,640					8,350	4,300	1,170	1,770	1,120	745
24	1,900	1,840					8,350	5,760	1,460	1,840	1,060	745
25	1,900	2,110					7,680	4,110	1,170	1,970	1,120	895
26	1,770	1,970					8,590	4,110	1,220	1,970	1,120	895
27	2,040	1,400					10,400	4,300	1,170	1,770	1,170	1,220
28	2,180	1,460					12,500	4,300	1,060	1,770	1,220	1,520
29	1,770	1,400					12,500	4,110	1,000	1,460	1,120	2,390
30	1,800	1,400					12,300	5,060	895	2,110	1,120	3,080
31	1,770							4,870		2,920	1,120	
<b>1908-9</b>												
1	3,080	1,220	2,040							1,340	2,840	1,640
2	2,920	1,170	1,520							1,280	2,040	1,640
3	2,920	1,060	1,520							1,460	1,970	1,640
4	2,760	1,000	1,770							1,340	2,040	1,640
5	2,760	1,060	1,840						4,110	1,170	2,180	1,970
6	2,760	1,220	1,700						4,640	1,060	2,390	1,900
7	2,460	1,220	1,580						5,160	1,280	1,840	1,120
8	2,040	1,280	1,580						5,560	1,120	2,250	1,120
9	1,900	1,340	1,580						5,460	950	1,700	950
10	1,520	1,280	1,520						5,060	1,280	1,400	895
11	1,520	1,060	1,520						5,260	2,760	1,520	1,280
12	1,400	950	1,520						4,870	1,120	1,840	1,460
13	1,280	1,170	1,520						4,580	1,120	2,040	1,120
14	1,340	1,280	1,520						3,930	1,280	2,040	1,280
15	1,400	1,280	1,520						3,580	1,700	2,460	1,970
16	1,400	1,060							3,160	1,580	2,040	2,620
17	1,340	1,060							1,700	1,700	2,110	2,540
18	1,340	1,120							3,400	2,460	2,110	2,460
19	1,280	1,400							3,400	950	2,040	2,180
20	1,170	1,280							3,160	1,170	1,640	1,900
21	1,000	1,400							3,160	2,760	1,640	1,840
22	1,220	1,400							2,320	5,460	2,040	1,640
23	1,220	1,400							2,320	8,000	1,770	1,460
24	1,340	1,400							1,280	7,440	1,700	1,460
25	1,340	1,400							1,280	8,590	1,700	1,280
26	1,340	1,770							1,280	6,520	1,700	1,400
27	1,340	2,040							1,400	5,160	1,640	1,340
28	1,280	2,040							1,340	5,460	1,640	1,170
29	1,340	2,040							1,340	2,760	1,840	1,170
30	1,280	2,040							1,340	2,620	1,700	1,170
31	1,220									2,180	1,580	

(a) Interpolated.

Daily discharge, in second-feet, of Menominee River near Iron Mountain, Mich.,  
for the years ending Sept. 30, 1902-1914.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1909-10</b>												
1	1,220	1,900	3,660				4,400	4,680	2,290	2,960	1,080	1,620
2	1,220	2,460	3,490				4,870	4,680	2,660	985	1,080	1,030
3	1,220	3,400	3,490				4,680	4,870	2,660	2,510	1,080	1,560
4	1,280	3,660	3,240				4,400	3,180	2,580	1,030	1,080	1,560
5	1,120	2,920	3,400				4,400	3,180	3,660	1,080	1,440	1,220
6	1,200	2,690	3,660				3,260	3,180	3,340	985	1,280	1,030
7	1,280	2,540	4,110				4,200	3,110	2,360	985	1,120	2,080
8	1,120	2,390	4,110				5,060	2,810	2,220	860	1,120	1,030
9	1,000	2,250	3,750				4,200	2,510	2,880	940	1,030	1,440
10	1,060	2,040	3,930				4,490	1,820	1,390	1,030	1,030	1,080
11	1,170	2,040	3,840				4,200	2,150	1,620	1,220	1,030	1,080
12	1,170	2,110	3,240				3,580	1,880	1,620	1,220	985	1,080
13	1,170	2,110	3,000				3,040	1,940	1,390	1,030	940	1,440
14	1,340	2,840	2,620				2,440	1,940	1,280	1,340	940	1,080
15	1,340	5,060	2,620				2,960	1,940	1,280	1,220	940	1,010
16	1,340	5,060					3,040	1,940	1,340	1,220	940	940
17	1,520	4,680					3,040	2,150	1,390	1,030	940	1,080
18	1,840	4,680					3,040	2,150	1,390	1,030	940	985
19	1,520	4,300					3,580	1,940	2,220	1,030	940	1,280
20	1,460	4,110					4,300	3,750	2,360	860	940	1,084
21	1,460	4,300				3,660	2,440	3,260	940	860		940
22	1,460	3,930				5,360	2,440	6,180	940	860		940
23	1,580	3,080				3,500	2,440	2,440	1,500	860		1,030
24	1,900	3,080				4,110	2,440	3,340	985	1,030		985
25	1,770	3,000				4,870	3,260	2,080	985	1,220		940
26	1,770	3,000				4,870	3,580	2,150	900	1,440		985
27	1,580	3,000				4,870	4,020	2,290	900	1,560		1,080
28	1,520	3,400				4,870	4,680	2,220	2,660	1,440		1,120
29	1,520	4,300				4,400	4,200	5,060	940	1,340		1,080
30	1,520	3,840				4,110	4,680	6,080	2,510	1,340		1,280
31	1,700					4,200		3,040		1,220		
<b>1910-11</b>												
1	985	1,340	940				3,260	3,110	3,930	1,940	6,520	2,150
2	985	1,280	940				3,040	2,810	3,180	1,620	6,520	2,290
3	1,180	1,280	940				2,880	1,880	2,150	1,750	7,330	2,010
4	2,510	1,220	940				2,510	2,360	3,110	1,440	6,970	1,820
5	2,740	1,180	940				2,440	1,820	2,810	1,340	5,760	1,620
6	3,260	1,120	940				2,440	1,620	3,180	1,500	4,400	2,220
7	1,820	1,120	940				2,510	1,820	2,660	2,080	3,930	2,510
8	1,820	1,120	940				2,580	2,150	2,290	1,680	5,260	2,510
9	1,560	1,080	940				2,880	2,360	2,510	1,560	5,260	2,510
10	1,280	1,080	940				2,880	2,660	2,080	1,500	5,160	2,360
11	1,280	1,080					2,880	2,880	3,180	1,500	4,680	2,360
12	1,120	1,080					3,580	2,880	1,940	1,440	4,020	1,820
13	1,030	1,080					4,400	2,880	1,750	1,340	3,580	1,820
14	1,030	1,080					5,260	2,810	1,560	1,340	3,180	2,150
15	1,030	1,080					5,560	2,080	1,680	1,220	2,880	2,150
16	1,080	1,030					5,560	2,010	1,940	1,120	2,580	2,150
17	1,080	1,030					5,560	2,810	1,620	1,120	2,510	1,940
18	1,080	1,030					4,870	4,400	2,740	1,120	2,510	1,940
19	1,080	1,030					4,870	8,120	1,180	1,180	2,290	1,620
20	1,080	1,030					5,260	10,300	1,220	1,560	2,010	1,500
21	1,080	1,030					4,870	10,100	1,500	1,340	1,750	1,500
22	1,340	1,030					5,660	10,100	2,010	1,440	2,440	1,220
23	1,500	1,030					5,760	10,700	2,360	1,440	2,440	1,340
24	1,500	985					3,340	9,070	2,580	1,560	2,220	1,440
25	1,440	985					4,200	9,070	1,820	1,820	2,080	1,620
26	1,390	985					3,660	7,440	1,500	2,010	2,080	1,280
27	1,390	985					2,510	7,330	1,620	2,740	2,290	1,390
28	1,340	985				3,260	3,840	7,680	1,880	2,360	2,290	1,500
29	1,340	985				3,750	3,580	5,860	1,620	2,360	1,940	1,560
30	1,340	940				3,580	3,580	6,860	1,750	2,810	1,940	1,880
31	1,340					3,420		5,260		3,260	1,940	

*Daily discharge, in second-feet, of Menominee River near Iron Mountain, Mich., for the years ending Sept. 30, 1902-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1911-12												
1	1,880	2,220	2,290	2,440	2,660	2,360	2,510	5,660	4,680	2,010	1,680	3,750
2	1,880	2,220	2,220	2,440	2,360	2,360	2,580	4,680	4,680	1,680	1,620	3,750
3	2,010	2,150	2,220	2,440	2,660	2,360	2,580	5,760	4,490	1,500	1,620	3,580
4	2,010	2,080	2,080	2,440	2,660	2,220	2,580	6,740	4,490	1,500	1,620	3,580
5	2,660	2,080	2,010	2,440	2,290	2,080	3,500	7,220	4,110	1,500	1,560	3,420
6	3,500	2,080	1,880	2,440	2,290	2,080	4,580	8,710	3,930	1,680	1,560	3,260
7	5,760	2,080	2,220	3,580	2,220	2,080	6,080	10,200	3,750	1,680	1,880	2,960
8	5,860	2,220	2,220	3,580	2,580	2,080	7,080	10,300	3,110	1,620	2,440	2,810
9	5,360	2,220	2,220	3,420	2,580	2,080	6,740	9,800	3,110	1,620	2,660	2,660
10	4,680	2,360	2,510	3,260	2,580	2,360	6,180	9,070	2,810	1,750	3,110	2,660
11	4,020	2,360	2,880	2,960	2,440	2,290	5,160	7,890	2,660	1,750	6,860	2,960
12	4,020	2,660	3,340	2,660	2,220	2,150	5,360	7,890	2,810	1,680	6,640	2,960
13	3,500	2,580	3,500	2,440	2,220	2,150	5,860	7,440	2,810	1,500	5,970	2,880
14	3,110	2,440	3,660	2,220	2,220	2,150	5,360	7,100	2,960	1,440	4,780	2,660
15	2,960	2,440	3,500	2,220	2,220	2,290	4,200	6,970	2,960	1,440	4,110	2,510
16	2,740	2,510	3,260	2,220	2,440	2,290	6,400	6,400	3,420	1,340	3,750	2,360
17	3,340	2,440	3,110	2,220	2,660	2,360	4,200	4,960	3,260	1,390	3,750	2,290
18	3,340	2,360	3,110	2,220	2,440	2,360	4,200	4,490	3,110	1,340	3,750	2,220
19	4,400	2,220	2,960	2,220	2,440	2,440	4,110	4,300	2,960	1,340	3,750	2,150
20	4,200	2,220	2,960	2,220	2,660	2,440	3,750	3,580	2,960	1,340	3,750	2,220
21	4,110	2,360	2,220	2,150	2,440	2,440	6,180	3,420	2,740	1,340	3,750	2,290
22	4,020	2,360	2,220	2,010	2,440	2,440	5,860	5,060	2,740	1,340	3,750	2,290
23	4,020	2,220	2,220	1,880	2,440	2,440	6,300	5,860	2,660	1,340	3,840	2,290
24	3,500	2,290	2,220	2,960	2,440	2,440	6,740	6,400	2,150	1,560	3,750	2,290
25	3,040	2,290	2,220	2,960	2,440	2,440	7,080	5,860	2,010	1,620	3,500	2,290
26	2,960	2,220	2,220	2,960	2,440	2,440	7,440	5,660	1,940	1,560	3,260	2,150
27	2,880	2,220	2,220	2,960	2,360	2,510	7,890	5,360	1,880	1,500	3,340	2,010
28	2,660	2,440	2,360	2,960	2,360	2,660	7,890	5,760	1,880	1,500	3,500	2,010
29	2,660	2,360	2,360	2,660	2,360	2,880	7,890	5,760	1,880	1,620	3,500	2,010
30	2,290	2,290	2,440	2,290	-----	2,880	5,660	5,460	1,880	1,680	3,660	1,940
31	2,290	-----	2,440	2,220	-----	2,810	-----	5,460	-----	1,750	3,840	-----
1912-13												
1	1,680	1,680	1,560	1,560	1,440	1,620	2,290	7,560	3,180	1,560	1,820	1,680
2	1,750	1,680	1,940	1,560	1,440	1,620	2,080	6,740	5,360	1,030	1,820	1,680
3	1,680	1,680	1,940	1,560	1,440	1,560	2,080	6,520	2,360	1,440	1,940	1,560
4	1,680	1,680	1,940	1,440	1,440	1,500	2,080	6,300	3,580	2,080	1,940	1,560
5	1,680	1,680	2,220	1,560	1,440	1,500	2,080	6,180	3,580	3,580	1,820	1,560
6	1,680	1,680	2,660	1,620	1,560	1,390	2,290	8,470	3,750	3,580	985	1,560
7	1,750	1,680	2,810	1,620	1,680	1,390	2,290	4,200	6,300	3,420	1,560	1,620
8	1,560	1,680	2,360	1,680	1,680	1,390	2,510	4,780	6,300	3,420	2,010	1,620
9	1,500	1,680	2,080	1,880	1,560	1,390	3,040	4,200	6,080	3,110	2,080	1,620
10	1,560	1,680	1,940	1,880	1,560	1,390	4,200	4,300	4,200	2,960	2,080	1,560
11	1,560	1,750	1,940	2,010	1,560	1,390	3,750	3,750	4,200	2,510	2,080	1,620
12	2,080	1,750	1,820	2,010	1,560	1,340	3,580	3,260	4,110	2,740	2,080	1,560
13	4,110	1,750	1,750	1,880	1,500	1,340	3,840	2,960	4,110	2,880	1,940	1,560
14	3,840	1,680	1,750	1,390	1,120	1,220	4,200	3,110	3,750	2,880	1,940	2,080
15	3,750	1,680	1,750	1,750	1,340	1,180	4,780	3,840	3,750	2,510	1,820	2,080
16	3,340	1,620	1,750	1,750	1,500	1,180	5,970	3,110	2,660	2,360	1,820	2,080
17	2,960	1,560	1,750	1,750	1,500	1,180	8,120	5,160	2,660	2,960	1,680	2,080
18	2,660	1,440	1,750	1,680	1,500	1,280	9,800	7,890	2,440	2,810	1,680	2,080
19	2,290	1,440	1,750	1,620	1,500	1,390	11,500	6,640	2,960	2,660	1,680	2,220
20	2,290	1,340	1,750	1,620	1,500	1,560	10,300	8,240	4,200	2,510	1,560	2,220
21	2,150	1,390	1,750	1,620	1,500	1,560	9,800	8,240	4,200	2,220	1,390	3,260
22	2,150	1,340	1,750	1,620	1,220	1,750	9,800	5,360	3,750	2,220	1,390	3,420
23	2,150	1,340	1,750	1,560	1,220	1,560	9,800	4,680	3,750	2,080	1,390	3,580
24	1,940	1,340	1,680	1,560	1,220	1,560	11,900	4,680	3,750	2,080	1,390	3,580
25	1,940	1,340	1,750	1,560	1,340	1,440	10,100	4,870	3,580	2,080	1,390	3,580
26	1,940	1,390	1,750	1,560	1,500	1,440	11,400	4,680	2,740	2,080	1,440	3,750
27	1,940	1,390	1,880	1,500	1,500	1,440	11,000	4,020	2,360	1,940	1,390	3,840
28	1,820	1,390	1,680	1,620	1,620	1,560	10,500	4,680	1,080	1,880	1,390	2,220
29	1,680	1,390	1,560	1,560	-----	1,560	9,800	2,660	1,500	1,820	1,390	1,820
30	1,680	1,500	1,560	1,500	-----	1,940	7,890	2,960	2,150	1,820	1,390	1,820
31	1,680	-----	1,560	1,500	-----	2,220	-----	3,180	-----	1,820	1,560	-----

*Daily discharge, in second-feet, of Menominee River near Iron Mountain, Mich.,  
for the years ending Sept. 30, 1902-1914—(Concluded).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1913-14</b>												
1	1,690	2,910	2,590				1,970	11,000	4,120	3,000		
2	1,970	2,910	2,750				1,690	11,600	4,120	3,250		
3	2,120	2,430	2,270				2,120	11,000	4,480	3,080		
4	1,970	1,970	2,120				2,270	11,000	3,940	3,420		
5	2,510	1,180	2,040				2,120	10,900	4,750	3,300		
6	2,510	1,350	1,690				1,830	10,300	4,840	3,250		
7	3,080	1,420	2,120				1,690	9,040	4,750	3,000		
8	1,180	1,420	1,690				1,620	8,010	4,120	3,500		
9	1,350	1,420	1,350				1,420	7,120	4,660	3,420		
10	2,590	1,420	2,120				1,420	6,040	3,160	3,000		
11	2,590	1,290	2,120				1,420	6,040	4,750	3,940		
12	2,910	1,420	2,120				1,480	4,300	3,940	4,480		
13	2,910	1,620	2,120				1,480	4,390	3,850	5,040		
14	2,910	1,760	1,970				1,480	5,040	4,120	4,840		
15	2,910	1,760	1,970				1,480	5,840	5,040	4,940		
16	2,750	1,760	2,120				1,480	6,040	5,840	5,440		
17	1,550	1,830	2,120				1,690	6,460	6,790	3,500		
18	1,690	1,830	2,120				1,690	7,670	6,040	3,160		
19	1,690	2,040	2,120				1,690	4,300	3,850	3,420		
20	1,970	2,040	2,120				2,120	4,120	3,940	2,670		
21	1,970	2,040	2,120				2,120	5,240	4,390	2,590		
22	1,830	2,040	1,690				2,590	5,740	4,570	2,910		
23	1,830	2,120	1,690				3,000	5,340	4,390	4,120		
24	1,970	2,120	1,690				4,660	5,540	4,750	3,160		
25	1,970	3,590	1,690				5,940	4,120	4,120	2,270		
26	3,590	3,590	1,690				6,040	4,300	4,030	3,250		
27	3,590	3,590	1,690				6,790	5,740	3,420	3,080		
28	3,420	3,420	1,690				6,790	5,540	3,590	3,420		
29	3,420	3,420	1,690				9,160	5,040	3,160	4,750		
30	3,420	3,420	1,690				8,930	6,240	3,940	4,660		
31	3,420		1,690					6,140		4,840		

NOTE.—Daily discharge prior to Jan. 1, 1907, computed from fairly well-defined rating curves; discharge, Jan. 1, 1907 to Sept. 30, 1913, computed from well-defined rating curves; discharge for the year ending Sept. 30, 1914, computed from a rating curve well-defined between 1,290 and 11,300 second-feet (gage heights, 1.8 and 12.0 feet). Winter discharge in 1914 estimated, because of ice, from gage heights, observer's notes, discharge measurements, and climatologic records, as follows: Jan. 1-10, 1,230 second-feet; Jan. 11-20, 1,020 second-feet; Jan. 21-31, 1,140 second-feet; Feb. 1-10, 1,040 second-feet; Feb. 11-20, 874 second-feet; Feb. 21-28, 890 second-feet; Mar. 1-10, 782 second-feet; Mar. 11-20, 875 second-feet; and Mar. 21-31, 886 second-feet.

Monthly discharge of Menominee River near Iron Mountain, Mich., for the years ending Sept. 30, 1902-1914.  
[Drainage area, 2,420 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1902						
September (4-30).....	1,770	1,030	1,300	0.537	0.54	-----
1902-3						
October.....	2,620	1,090	1,590	.657	.76	-----
November.....	5,310	1,810	2,830	1.17	1.30	-----
December (a).....	2,650	1,280	1,910	.789	.91	-----
January.....						-----
February.....						-----
March.....						-----
April.....	6,780	1,700	5,170	2.14	2.39	-----
May.....	11,600	4,700	7,500	3.10	3.57	-----
June.....	8,020	1,540	3,420	1.41	1.57	-----
July.....	6,670	1,810	3,550	1.47	1.70	-----
August.....	7,630	2,470	4,050	1.67	1.92	-----
September.....	10,600	2,580	5,090	2.10	2.34	-----
1903-4						
October.....	6,130	2,720	4,060	1.68	1.94	-----
November.....	3,670	1,870	2,500	1.03	1.15	-----
December (a).....	2,720	1,700	2,150	.888	1.02	-----
January.....						-----
February.....						-----
March.....						-----
April.....	8,150	2,680	4,000	1.65	1.84	-----
May.....	11,800	3,630	7,880	3.26	3.76	-----
June.....	8,410	2,580	4,790	1.98	2.21	-----
July.....	3,400	1,090	2,200	.909	1.05	-----
August.....	3,240	1,030	2,120	.876	1.01	-----
September.....	3,670	1,410	2,490	1.03	1.15	-----
1904-5						
October.....	6,720	1,840	3,650	1.51	1.74	-----
November.....	3,590	1,380	2,290	.946	1.06	-----
December (a).....	2,200	1,670	1,840	.760	.88	-----
January.....						-----
February.....						-----
March.....						-----
April.....	7,140	4,260	5,280	2.18	2.43	-----
May.....	9,250	2,500	6,810	2.81	3.24	-----
June.....	9,250	1,810	5,010	2.07	2.31	-----
July.....	7,140	1,570	3,850	1.59	1.83	-----
August.....	3,090	1,540	2,130	.880	1.01	-----
September.....	6,450	2,080	3,280	1.36	1.52	-----
1905-6						
October.....	2,610	1,770	2,160	.893	1.03	-----
November.....	2,430	1,410	2,200	.909	1.01	-----
December.....	2,540	1,380	2,090	.864	1.00	-----
January.....	3,940	1,740	2,370	.979	1.13	B
February (a).....	3,360	2,260	2,590	1.07	1.11	D
March.....	2,650	2,080	2,250	.930	1.07	B
April.....	15,100	2,790	8,040	3.32	3.70	B
May.....	8,670	1,740	5,610	2.32	2.68	B
June.....	10,700	1,740	5,040	2.08	2.32	B
July.....	7,890	2,080	3,500	1.45	1.67	B
August.....	3,130	1,810	2,400	.992	1.14	B
September.....	2,940	1,540	2,160	.893	1.00	B
The year.....	15,100	1,380	3,360	1.39	18.86	-----

(a) Open-water rating used; discharge relation may have been slightly affected by ice.



Monthly discharge of Menominee River near Iron Mountain, Mich., for the years ending Sept. 30, 1902-1914.—(Continued).

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1906-7						
October (1-19).....	3,710	1,710	2,140	0.884	0.62	B
November.....						
December.....						
January.....						
February.....						
March (24-31).....	6,180	2,760	4,630	1.91	.57	B
April.....	7,680	4,300	5,780	2.39	2.67	B
May.....	15,000	6,300	9,750	4.03	4.65	B
June.....	7,220	1,900	3,980	1.64	1.83	B
July.....	4,780	1,060	2,360	.975	1.12	C
August.....	2,320	1,000	1,480	.612	.71	C
September.....	4,680	1,090	2,290	.946	1.06	B
1907-8						
October.....	2,620	1,770	2,210	.913	1.05	B
November.....	2,110	1,280	1,680	.694	.77	B
December.....	1,640		1,320	.545	.63	D
January.....			1,100	.455	.52	D
February.....			1,000	.413	.45	D
March.....			1,000	.413	.48	D
April.....	12,500		5,710	2.36	2.63	C
May.....	10,400	2,390	5,250	2.17	2.50	B
June.....		895	2,870	1.19	1.33	C
July.....	3,580	1,170	1,900	.785	.90	B
August.....	2,920	1,060	1,370	.566	.65	B
September.....	3,080	700	1,100	.455	.51	B
The year.....	12,500		2,210	.913	12.42	
1908-9						
October.....	3,080	1,000	1,690	0.698	0.80	B
November.....	2,040	950	1,350	.558	.62	B
December.....	2,040	1,400	1,530	.632	.73	B
January (a).....			900	.372	.43	D
February (a).....			800	.331	.34	D
March (a).....			1,100	.455	.52	D
April.....						
May.....						
June (5-30).....	5,560	1,280	3,230	1.33	1.29	C
July.....	8,590	950	2,740	1.13	1.30	C
August.....	2,840	1,400	1,920	.793	.91	C
September.....	2,620	895	1,580	.653	.73	C
1909-10						
October.....	1,900	1,000	1,400	.579	.67	C
November.....	5,060	1,900	3,270	1.35	1.51	C
December.....	4,110		2,480	1.02	1.18	D
January.....			1,000	.413	.48	D
February.....			800	.331	.37	D
March.....	5,360		2,260	.934	1.08	C
April.....	5,060	2,440	3,710	1.53	1.71	B
May.....	6,180	1,820	3,030	1.25	1.44	B
June.....	3,660	900	1,840	.760	.85	B
July.....	2,960	860	1,220	.504	.58	B
August.....		940	1,410	.583	.67	B
September.....	2,080	940	1,170	.483	.54	A
The year.....	6,180		1,970	.814	11.08	

(a) Monthly means estimated by comparison with the Menominee River at Koss, Mich., and study of gage heights and climatologic records.

*Monthly discharge of Menominee River near Iron Mountain, Mich., for the years ending Sept. 30, 1902-1914.—(Concluded).*

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1910-11						
October.....	3,260	985	1,420	0.587	0.68	A
November.....	1,340	940	1,080	.446	.50	A
December.....			850	.351	.40	C
Januray.....			850	.351	.40	D
February.....			1,000	.413	.43	D
March.....	3,750		1,500	.620	.71	D
April.....	5,760	2,440	3,870	1.60	1.78	B
May.....	10,700	1,620	4,940	2.04	2.35	B
June.....	3,930	1,180	2,180	.901	1.01	B
July.....	3,260	1,120	1,690	.698	.80	B
August.....	7,330	1,750	3,570	1.48	1.71	A
September.....	2,510	1,220	1,870	.773	.86	A
The year.....	10,700		2,080	.860	11.63	
1911-12						
October.....	5,860	1,880	3,410	1.41	1.63	A
November.....	2,660	2,080	2,300	.950	1.06	A
December.....	3,660	1,880	2,560	1.06	1.22	A
January (a).....	3,580	1,880	2,580	1.07	1.23	C
February (a).....	2,660	2,220	2,430	1.00	1.08	D
March (a).....	2,880	2,080	2,370	.979	1.13	D
April.....	7,890	2,510	5,400	2.23	2.49	B
May.....	10,300	3,420	6,430	2.66	3.07	B
June.....	4,680	1,880	3,030	1.25	1.40	B
July.....	2,010	1,340	1,550	.640	.74	B
August.....	6,860	1,560	3,440	1.42	1.64	B
September.....	3,750	1,940	2,640	1.09	1.22	B
The year.....	10,300	1,340	3,180	1.31	17.91	
1912-13						
October.....	4,110	1,500	2,140	0.884	1.02	B
November.....	1,750	1,340	1,550	.640	.71	B
December.....	2,810	1,560	1,870	.773	.89	B
January.....	2,010	1,390	1,640	.678	.78	C
February.....	1,680	1,120	1,460	.603	.63	C
March.....	2,220	1,180	1,480	.612	.71	C
April.....	11,900	2,080	6,430	2.66	2.97	C
May.....	8,470	2,660	5,070	2.10	2.42	B
June.....	6,300	1,080	3,610	1.49	1.66	B
July.....	3,580	1,030	2,420	1.00	1.15	B
August.....	2,080	985	1,670	.690	.80	B
September.....	3,840	1,560	2,220	.917	1.02	B
The year.....	11,900	985	2,630	1.09	14.76	
1913-14						
October.....	3,590	1,180	2,430	1.00	1.15	A
November.....	3,590	1,180	2,170	.897	1.00	B
December.....	2,750	1,350	1,960	.810	.93	B
January.....			1,130	.467	.54	C
February.....			938	.388	.40	C
March.....			849	.351	.40	C
April.....	9,160	1,420	3,010	1.24	1.38	B
May.....	11,600	4,120	6,750	2.79	3.22	A
June.....	6,790	3,160	4,380	1.81	2.02	A
July.....	5,440	2,270	3,640	1.50	1.73	B

(a) Open-water rating used; values probably too high as discharge relation may have been affected by ice.

NOTE—Monthly discharge tables September, 1902, to December, 1905, differ from those published in U. S. Geol. Survey Water-Supply Papers 129 and 170 for the reason that the values are here published to three significant figures. Mean discharge Aug. 21-31, 1910, estimated at 2,000 second-feet. Discharge for periods in 1910 and 1911 when discharge relation may have been affected by ice, estimated from climatologic records, and comparison with records of flow of Escanaba River as follows: Mar. 1-27, 1910, 1,060 second-feet; March 1-27, 1911, 1,200 second-feet. See footnote to table of daily discharge.



MENOMINEE RIVER AT LOWER QUINESEC FALLS, WIS.

Location.—In sec. 10, T. 38 N., R. 20 E., at Lower Quinesec Falls, Wis.

Records available.—May 26, 1898, to July 31, 1899. Published also in U. S. Geol. Survey Water-Supply Paper 83.

Drainage area.—Approximately 2,430 square miles.

Gage.—No information concerning type of gage used, but readings were taken three times daily, at 7 a. m., 1 p. m., and 6 p. m.

Discharge measurements.—Made by observations of velocity of floats over a measured course about one-fourth mile above Lower Quinesec Falls.

Regulation.—Flow is controlled to some extent by operation of storage reservoirs which are situated on the head-waters and are used for log driving.

Accuracy.—Unknown.

Cooperation.—Records furnished by the Kimberly & Clark Lumber Co.; discharges computed by Joseph H. Wallace.

Daily discharge, in second-feet, of Menominee River at Lower Quinesec Falls, Wis., for the years ending Sept. 30, 1898-1899.

Day	Oct.	Nov.	Dec	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1898												
1									3,250	2,740	794	-----
2									2,260	2,460	498	-----
3									1,640		2,800	-----
4									1,690		1,120	-----
5										2,320	753	2,630
6									2,270	1,610	1,180	797
7									3,180	1,930		1,360
8												2,280
9									3,240	1,490		1,320
10									3,310			2,820
11									3,620	655		-----
12									3,470	771		3,260
13										676		3,100
14									3,400	952		2,790
15									2,670	1,100	2,260	2,700
16									2,470		1,160	3,330
17									2,560		790	3,110
18									2,030	811	1,280	-----
19										877	949	3,540
20										1,660		3,350
21										1,520		2,670
22									1,730	1,850	3,270	2,780
23									1,550	1,470	4,490	2,700
24									1,700		4 970	-----
25									1,450	2,040	4,660	-----
26								3,800		1,310	4,730	2,580
27								2,890	1,960	420	3,100	2,630
28								2,440		1,660		2,300
29									2,320	1,360		2,110
30								2,760	2,260			2,290
31								3,540				-----

Daily discharge, in second-feet, of Menominee River at lower Quinesec Falls, Wis., for the years ending Sept. 30, 1898-1899—(Concluded).

Day	Oct.	Nov.	Dec.	Jan	Feb.	March	April	May	June	July	Aug.	Sept.
1898-99												
1	3,280	3,580							3,420	2,120	1,420	
2	2,080								3,770	1,990	1,410	
3	1,950	3,600							3,520	1,790	1,410	
4	2,210	3,280							3,920		1,790	
5	3,250	3,500							4,350	2,480	1,720	
6									4,270	2,080	1,690	
7	3,070	3,560							4,260	2,010		
8	3,340	3,380							4,370	1,900		
9									4,620			
10	3,090	3,280							4,130			
11	3,870	2,700					3,740		3,970	2,200		
12	3,910	2,290					3,470		3,500	2,200		
13	2,930						3,080		3,420	1,990		
14	2,980	1,530					3,980		3,250	1,900		
15	3,060	1,520					4,380	3,740	4,030	1,790		
16		1,480						4,260	4,160	2,080		
17	3,280	1,660							3,160	2,340		
18		2,420							3,540	804		
19		2,800					4,640		3,540	2,260		
20	3,380								4,030	2,520		
21	3,350	2,890							3,370	1,520		
22	3,510	3,000							2,540	1,490		
23		3,250							3,540	1,280		
24	3,540	2,840					4,320		3,490	1,430		
25							4,460	4,480	2,710	1,590		
26								4,350	2,440	1,590		
27	3,280							4,400	2,300	1,380		
28	3,160							4,030	2,520	1,530		
29	3,200							3,850	2,120	1,590		
30								3,920	2,020	1,640		
31	5,740							4,080		1,570		

NOTE.—The above values differ from those published in U. S. Geol. Survey Water-Supply Paper 83 on account of being used to three significant figures only.

Monthly discharge of Menominee River at Lower Quinesec Falls, Wis., for the years ending Sept. 30, 1898-1899.

[Drainage area, 2,430 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1898						
May			3,090	1.26	1.45	
June			2,460	1.01	1.13	
July			1,440	.59	.68	
August			2,280	.94	1.08	
September			2,570	1.05	1.17	
1898-99						
October			3,250	1.34	1.54	
November			2,770	1.14	1.27	
December						
January						
February						
March						
April			4,010	1.65	1.84	
May			4,110	1.69	1.95	
June	4,620	2,020	3,480	1.43	1.60	
July			1,820	.75	.86	
August			1,570	.65	.75	
September						

NOTE.—The above values differ from those published in U. S. Geol. Survey Water-Supply Paper 83 on account of being used to three significant figures only.

**MENOMINEE RIVER AT KOSS, MICH.**

**Location.**—On Wisconsin & Michigan railroad bridge near Koss, Mich., about 12 miles below junction with Wausaukee River, entering from the right, and about 26 miles above mouth of the Menominee.

**Records available.**—June 21, 1907, to March 31, 1909; January 27 to June 30, 1914, when station was discontinued.

**Drainage area.**—3,780 square miles.

**Gage.**—Chain; fastened to upstream side of bridge. Zero of gage used January 27 to June 30, 1914, is 5 feet above the datum used from January 21, 1907, to March 31, 1909.

**Control.**—Rock and heavy gravel; permanent.

**Winter flow.**—Discharge relation affected by ice; flow determined from discharge measurements made through the ice.

**Regulation.**—Considerable fluctuation at gage caused by operation of power plants above.

**Accuracy.**—Gage heights apparently affected at times by backwater from the dam of the Menominee & Marinette Light & Traction Co., about 3 miles below gage, and by the operation of power plants above, and estimates of daily discharge for 1914 are therefore not presented. Gage heights June 21, 1907, to March 31, 1909, not affected by the dam below; records published considered good.

**Discharge measurements.**—Made during 1914 check very closely the computations of discharge made by the Menominee & Marinette Light & Traction Co. For records of flow of the Menominee River below Koss, Mich., see Menominee River at "Grand Rapids," below Koss, Mich., page 419.

*Discharge measurements of Menominee River at Koss, Mich.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
January 28 (a).....	G. H. Canfield.....	3.32	1,780
February 19 (a).....	H. C. Beckman.....	3.22	1,450
March 27 (a).....	O. A. Steller.....	3.15	1,610
April 17.....	M. F. Rather.....	3.46	2,870
May 5-6.....	G. H. Canfield.....	7.92	15,100
May 9.....	G. H. Canfield.....	6.36	10,500
May 18.....	H. C. Beckman.....	4.04	4,520
May 19.....	H. C. Beckman.....	3.90	4,400

(a) Measurement made under complete ice cover.

# Railroad Commission Report

*Daily gage height, in feet, of Menominee River at Koss, Mich.,  
for the year ending Sept. 30, 1914.*

[J. F. Bronoel, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1					3.3	3.2	4.2	8.9	3.3			
2					3.1	3.2	4.2	9.5	3.2			
3					3.3	3.4	4.5	9.5	3.1			
4					3.4	3.5	4.2	9.0	3.4			
5					3.4	3.3	4.3	8.3	3.2			
6					3.5	3.2	3.8	7.7	3.3			
7					3.4	3.2	3.4	7.1	3.3			
8					3.3	3.2	3.4	6.7	3.2			
9					3.1	3.3	3.0	6.4	3.2			
10					3.4	3.2	2.89	6.1	3.1			
11					3.4	3.3	2.55	5.4	3.3			
12					3.3	3.2	2.75	5.4	1.98			
13					3.0	3.5	2.6	5.3	3.3			
14					3.0	3.3	2.9	5.0	1.75			
15					3.1	3.5	2.7	4.8	3.1			
16					3.1	3.5	3.0	4.4	2.75			
17					3.0	3.4	3.4	4.1	1.65			
18					3.2	3.6	3.9	4.0	3.2			
19					3.3	3.5	4.3	4.0	2.8			
20					3.2	3.4	4.8	3.9	2.05			
21					3.2	3.3	5.3	4.0	3.2			
22					3.2	3.4	5.8	3.2	2.9			
23					3.1	3.2	5.9	3.7	1.60			
24					3.2	3.1	5.7	4.1	3.1			
25					3.2	3.2	5.7	4.1	4.1			
26					3.2	3.2	5.6	3.8	4.1			
27				3.2	3.2	3.1	6.0	3.6	4.1			
28				3.3	3.3	3.2	6.1	3.7	4.4			
29				3.4		3.3	6.7	3.6	5.0			
30				3.2		3.4	7.8	3.5	5.8			
31				3.4		4.0		3.6				

NOTE.—See "Gage" and "Accuracy" in station description.

Daily discharge, in second-feet, of Menominee River at Koss, Mich.,  
for the years ending Sept. 30, 1907-1909.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1907												
1										3,800	2,680	2,750
2										4,480	1,660	1,040
3										3,800	2,080	2,520
4										3,630	2,010	1,660
5										4,140	2,160	2,980
6										4,060	3,380	1,530
7										4,400	2,230	3,630
8										3,300	1,870	1,800
9										3,630	2,380	3,720
10										4,060	1,870	1,660
11										3,380	2,230	4,220
12										2,820	1,870	4,400
13										2,160	2,230	4,820
14										3,060	3,380	4,220
15										3,800	1,600	3,300
16										3,540	1,870	3,060
17										3,300	1,800	3,540
18										3,140	1,800	4,140
19										2,680	1,870	5,400
20										3,140	1,530	6,840
21									4,220	3,220	1,800	6,840
22									4,400	2,230	2,380	7,120
23									4,560	3,460	3,060	6,930
24									5,700	3,220	1,940	6,840
25									4,220	1,870	2,450	6,570
26									4,820	2,750	2,980	5,670
27									4,820	2,900	1,400	5,760
28									4,650	3,140	2,750	4,960
29									4,310	1,800	1,600	4,960
30									4,220	2,600	2,900	4,360
31										2,160	1,470	
1907-8												
1	4,190	2,300	2,380					14,600	5,850	2,680	1,240	688
2	3,860	2,300	2,160					14,200	6,930	3,130	5,220	739
3	3,370	2,300	2,160					13,200	7,670	4,190	4,440	1,810
4	3,290	2,450	2,600					11,900	7,950	3,940	3,370	2,380
5	3,060	2,600	2,450					11,300	6,480	2,230	1,240	1,680
6	2,750	2,680	2,450					10,500	5,220	2,520	4,110	1,550
7	2,230	2,520	2,450					9,100	5,310	4,360	1,000	1,480
8	2,380	2,450	2,450					8,620	5,760	5,220	3,780	1,360
9	2,520	2,450	2,450					7,950	6,210	5,940	950	1,550
10	2,450	2,450	2,600					7,020	7,020	7,020	3,530	1,610
11	2,520	2,450	2,600					6,840	7,300	4,960	950	1,550
12	2,600	2,600	2,600					6,840	7,120	4,020	3,610	1,360
13	2,520	2,380	2,450					6,840	6,750	3,860	1,000	1,300
14	2,520	2,020	2,300				8,240	6,750	6,120	3,860	3,210	1,240
15	3,060	2,020	2,300				8,520	6,570	5,580	1,610	895	1,420
16	4,020	2,380	2,300				9,500	6,660	5,220	4,790	688	1,610
17	3,130	2,300	2,680				10,200	7,020	4,440	1,550	3,210	1,550
18	3,060	2,300	2,450				11,000	6,570	3,700	4,530	842	1,480
19	3,060	2,600	2,300				11,000	6,750	3,610	4,440	3,130	1,360
20	2,900	2,600	2,300				9,990	6,660	2,900	5,220	842	1,420
21	2,900	2,600	2,300				9,400	7,400	4,360	4,620	2,900	1,300
22	2,900	2,600					9,690	7,300	3,780	4,280	790	1,360
23	2,900	2,750					9,500	7,300	3,130	3,940	842	1,360
24	2,820	2,750					9,500	6,570	2,900	3,700	3,450	1,360
25	2,680	2,600					9,500	6,480	3,370	3,940	739	1,360
26	2,450	2,450					9,500	6,750	3,860	1,120	2,090	1,360
27	2,380	2,450					12,200	6,210	3,700	4,360	790	1,360
28	2,300	2,300					13,400	5,940	4,020	1,550	1,120	1,360
29	2,680	2,160					14,000	4,960	1,940	4,360	2,520	1,480
30	2,600	2,160					14,200	5,310	3,060	1,120	739	1,810
31	2,520							5,400		3,940	1,740	

*Daily discharge, in second-feet, of Menominee River at Koss, Mich., for the years ending Sept. 30, 1907-1909.—(Concluded).*

[illegible]

Monthly discharge of Menominee River at Koss, Mich., for the years ending Sept. 30, 1907-1909.  
[Drainage area, 3,780 square miles.]

Month	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accu- racy.
	Maximum	Minimum	Mean	Per square mile.		
1907						
June (21-30).....	5,700	-----	4,590	1.21	0.45	B
July.....	4,480	1,800	3,220	.852	.98	B
August.....	3,380	1,400	2,170	.574	.66	B
September.....	7,120	1,040	4,240	1.12	1.25	B
1907-8						
October.....	4,190	2,230	2,860	0.757	0.87	B
November.....	2,750	2,020	2,430	.643	.72	B
December.....	2,680	-----	2,350	.622	.72	B
January.....	-----	-----	1,980	.524	.60	C
February.....	-----	-----	1,800	.476	.51	C
March.....	-----	-----	1,800	.476	.55	C
April (14-30).....	14,200	-----	7,050	1.87	2.09	B
May.....	14,600	4,960	7,920	2.10	2.42	B
June.....	7,950	1,940	5,040	1.33	1.48	B
July.....	5,940	1,120	3,740	.989	1.14	B
August.....	5,220	688	2,100	.556	.64	B
September.....	2,380	688	1,440	.381	.43	B
The year.....	14,600	-----	3,380	.894	12.17	-----
1908-9						
October.....	3,370	1,610	2,200	0.582	0.67	B
November.....	2,900	1,240	1,880	.497	.55	B
December.....	2,820	2,020	2,270	.601	.69	B
January.....	-----	-----	1,560	.413	.47	D
February.....	-----	-----	1,310	.347	.36	D
March.....	-----	-----	1,920	.508	.59	D

NOTE:—Winter discharge during 1907 and 1908 estimated by means of four measurements which showed a fairly uniform rate of flow, as follows: Dec. 20—31, 1907, 2,200 second-feet; Apr. 1—13, 1908, 2,470 second-feet; Dec. 30—31, 1908, 2,150 second-feet. Discharge for January, February, and March, 1909, estimated from two discharge measurements and observer's notes.

MENOMINEE RIVER BELOW KOSS, MICH.

**Location.**—At “Grand Rapids” about 4 miles below Koss, Mich., and 3 miles west of Ingalls, Mich. Little Cedar River, draining an area wholly in Michigan, enters from the left about half a mile below the station.

**Records available.**—July 1, 1913, to September 30, 1914.

**Drainage area.**—3,790 square miles.

**Discharge.**—The flow is computed by the Menominee & Marinette Light & Traction Co. of Menominee, Mich., from the kilowatt output of the generators plus the waste over the dam and gates, considered as a weir. No account is taken of the water through the exciter turbine or waste water over the “trash gate” at the power house.

**Accuracy.**—No measurements have been made by the Survey engineers at this plant, but measurements made at Koss during the year ending September 30, 1914, show a close comparison with the discharges as determined at the power house. See results of measurements at Koss, page 415.

**Cooperation.**—Daily discharge tables furnished by Edward Daniell, General Manager of the Menominee & Marinette Light & Traction Company. The monthly computations have been made by the Survey.

Daily discharge, in second-feet, of Menominee River below Koss, Mich.,  
for the years ending Sept. 30, 1913-1914.  
[Menominee & Marinette Light & Traction Co., observer]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1913												
1										4,200	2,400	1,800
2										4,800	3,000	1,400
3										3,600	2,800	1,800
4										3,300	2,400	2,500
5										3,300	2,500	2,600
6										4,100	2,700	2,900
7										4,600	2,700	2,700
8										4,700	2,200	2,400
9										4,600	2,400	2,300
10										4,100	2,600	2,300
11										3,900	2,800	2,300
12										3,800	2,600	2,200
13										4,200	2,600	2,200
14										4,400	2,400	2,200
15										4,300	2,300	2,100
16										4,100	2,200	1,600
17										3,600	2,100	1,700
18										3,700	a2,100	1,800
19										3,600	1,800	2,200
20										3,400	2,200	2,300
21										2,700	2,300	2,400
22										2,800	2,200	2,600
23										2,800	2,200	4,700
24										2,500	2,200	4,800
25										2,100	2,100	4,500
26										2,800	a1,500	4,300
27										3,000	a1,400	4,600
28										2,800	a1,800	4,600
29										2,500	2,100	4,600
30										2,700	2,100	3,600
31										2,500	2,100	
1913-14												
1	3,000	4,200	3,100	2,000	1,800	1,300	3,000	17,600	3,800	8,480	5,690	3,470
2	2,800	3,500	3,400	1,900	1,400	1,400	2,900	20,500	3,000	7,890	5,130	3,630
3	2,300	3,100	3,300	1,900	1,500	1,500	2,900	20,800	2,900	7,270	4,130	3,480
4	2,700	3,400	2,800	2,100	1,700	1,600	3,000	18,100	3,200	6,560	3,760	3,360
5	3,000	3,000	3,200	1,800	1,600	1,300	3,100	15,700	3,100	6,270	3,480	3,510
6	3,300	2,900	3,100	1,700	1,500	1,300	2,700	13,800	3,100	5,600	3,160	3,990
7	3,000	2,800	2,800	2,100	1,500	1,300	2,700	12,000	2,800	4,710	2,840	3,980
8	4,100	3,300	2,300	2,100	1,700	1,400	2,600	11,600	2,600	3,910	2,640	3,810
9	3,800	3,000	2,000	2,100	1,400	1,400	2,600	10,000	2,800	2,670	2,440	3,170
10	3,000	2,500	2,000	2,000	1,300	1,300	2,500	9,500	2,500	2,740	2,210	3,120
11	3,900	2,700	2,400	1,900	1,400	1,400	2,400	7,500	2,400	2,530	2,490	2,970
12	4,300	2,700	2,900	1,600	1,400	1,300	2,300	7,100	1,300	3,110	2,680	2,960
13	4,200	2,900	3,100	1,300	1,300	1,500	2,500	6,900	2,900	5,720	2,570	3,260
14	4,600	3,000	2,500	1,900	1,300	1,600	2,700	6,400	1,000	7,940	2,620	3,010
15	4,300	3,100	2,400	1,800	1,300	1,500	2,600	6,100	2,200	9,340	2,630	2,750
16	4,200	3,100	2,400	1,600	1,300	1,700	2,700	5,300	1,800	9,290	2,640	4,140
17	4,100	2,800	2,600	1,600	1,200	1,700	3,000	4,600	1,200	7,150	2,870	4,640
18	3,500	2,900	2,700	1,800	1,300	1,900	4,000	4,600	2,300	5,920	2,800	4,960
19	2,900	3,000	2,400	1,700	1,300	1,900	4,800	4,500	1,700	5,130	3,070	4,840
20	2,900	3,000	2,200	1,700	1,200	1,800	5,900	4,400	1,100	4,070	3,220	4,430
21	2,600	3,100	1,900	2,000	1,200	1,700	7,200	4,400	2,300	3,410	3,610	3,610
22	2,800	3,400	1,800	1,900	1,400	1,800	8,500	3,100	2,200	3,030	4,400	2,970
23	2,500	3,800	1,900	1,700	1,400	1,700	8,700	3,700	1,550	3,030	4,590	2,820
24	2,500	3,700	2,000	1,700	1,300	1,600	8,100	4,200	3,000	3,220	5,310	3,100
25	2,800	3,900	1,800	1,800	1,300	1,700	8,300	4,200	3,900	4,540	5,730	2,900
26	2,700	4,000	1,700	1,500	1,300	1,600	8,100	4,000	4,600	4,640	6,500	2,560
27	2,400	3,600	1,700	1,500	1,300	1,600	8,700	3,900	4,500	4,270	6,250	2,340
28	3,400	3,200	2,000	1,700	1,300	1,700	9,000	4,000	5,100	5,460	5,380	2,420
29	4,000	3,300	1,700	1,700		1,900	11,600	3,800	6,500	6,110	4,430	2,900
30	4,000	3,200	1,700	1,600		2,200	13,900	3,900	8,100	6,880	3,890	2,810
31	4,300		2,000	1,800		2,800		3,900		6,550	3,500	

(a) Flow regulated by power plants above.



*Monthly discharge of Menominee River below Koss, Mich.,  
for the years ending Sept. 30, 1913-1914.*

[Drainage area, 3,790 square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
<b>1913</b>						
July.....	4,800	2,100	3,530	0.931	1.07	-----
August.....	3,000	1,400	2,280	.602	.69	-----
September.....	4,800	1,400	2,800	.739	.82	-----
<b>1913-14</b>						
October.....	4,600	2,300	3,350	.884	1.02	-----
November.....	4,200	2,500	3,200	.844	.94	-----
December.....	3,400	1,700	2,380	.628	.72	-----
January.....	2,100	1,300	1,790	.472	.54	-----
February.....	1,800	1,200	1,390	.367	.38	-----
March.....	2,800	1,300	1,630	.430	.50	-----
April.....	13,900	2,300	5,100	1.35	1.51	-----
May.....	20,800	3,100	8,070	2.13	2.46	-----
June.....	8,100	1,000	2,980	.786	.88	-----
July.....	9,340	2,530	5,400	1.42	1.64	-----
August.....	6,500	2,210	3,760	.992	1.14	-----
September.....	4,960	2,340	3,400	.897	1.00	-----
The year.....	20,800	1,000	3,550	.937	12.73	-----

### BRULE RIVER NEAR FLORENCE, WIS.

**Location.**—At highway bridge near Washburn farm,  $3\frac{1}{2}$  miles north of Florence, Wis., 1 mile above the mouth of Paint Creek, and 6 miles above the mouth of Michigamme River, both entering from the left.

**Records available.**—January 24 to September 31, 1914.

**Drainage area.**—344 square miles.

**Gage.**—Chain gage fastened to upstream side of highway bridge; read twice daily, morning and evening, to quarter-tenths; limits of use: hundredths below 2.0 feet, half-tenths between 2.0 and 3.0 feet, and tenths above 3.0 feet.

**Control.**—Gravel; smooth and probably permanent.

**Discharge measurements.**—At low stages, made by wading; at medium and high stages from highway bridge.

**Winter flow.**—Discharge relation affected by ice; flow determined from measurements made through the ice.

**Regulation.**—Logging dams above the gage are so operated that during the spring large volumes of water are released to facilitate log driving; the flow during such periods fluctuates rapidly; flow during remainder of year probably natural.

**Accuracy.**—Rating curve well defined; records good.

Discharge measurements of Brule River near Florence, Wis.,  
during the year ending Sept. 30, 1914.

Date	Made by	Gage height	Discharge
		Feet	S.c.-feet
Jan. 24 (a)	G. H. Canfield	3.11	234
Feb. 21 (b)	H. C. Beckman	3.37	209
Mar. 26 (c)	O. A. Steller	3.71	312
Apr. 15	M. F. Rather	2.54	332
May 4	G. H. Canfield	3.23	846
May 6	G. H. Canfield	2.64	526
May 7	G. H. Canfield	2.48	454
June 30	H. C. Beckman	2.90	686
July 2	H. C. Beckman	2.64	520
Aug. 14	M. F. Rather	2.30	344

- (a) Measurement made under partial ice cover.  
(b) Measurement made under complete ice cover.  
(c) Notes of original measurement lost; data as given from unchecked daily report cards.

Daily gage height, in feet, of Brule River near Florence, Wis.,  
for the year ending Sept. 30, 1914.  
[R. N. Washburn, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1					3.6	3.5	3.9	4.4	2.5	2.75	2.4	2.3
2					3.6	3.6	3.8	4.2	2.5	2.6	2.4	2.3
3					3.6	3.7	3.8	4.4	2.5	2.7	2.3	2.2
4					3.5	3.6	3.8	3.8	2.45	2.65	2.2	2.2
5					3.4	3.7	3.7	3.4	2.6	2.75	2.2	2.3
6					3.4	3.7	3.6	3.2	2.85	2.75	2.2	2.2
7					3.4	3.6	3.6	2.95	3.2	2.75	2.2	2.3
8					3.4	3.7	3.4	2.95	3.0	2.6	2.2	2.4
9					3.4	3.6	3.6	3.1	3.1	2.7	2.2	2.4
10					3.5	3.6	3.4	3.1	3.1	2.5	2.25	2.3
11					3.4	3.7	3.4	3.4	3.1	2.75	2.2	2.3
12					3.4	3.6	3.5	3.4	3.0	2.95	2.25	2.3
13					3.4	3.7	3.0	3.5	2.95	2.9	2.35	2.4
14					3.3	3.7	2.6	3.6	2.9	2.9	2.25	2.45
15					3.4	3.8	2.55	3.4	2.9	2.7	2.3	2.35
16					3.3	3.8	2.6	3.4	2.8	2.65	2.25	2.3
17					3.3	3.8	2.7	3.1	2.6	2.65	2.25	2.3
18					3.4	3.6	2.7	2.8	2.55	2.65	2.35	2.5
19					3.4	3.6	3.6	2.7	2.5	2.5	2.5	2.55
20						3.4	4.4	2.7	2.3	2.7	2.5	2.5
21					3.4	3.4	4.1	2.6	2.2	2.95	2.6	2.4
22					3.4	3.3	3.9	2.6	2.2	2.8	2.45	2.35
23					3.4	3.4	3.9	2.5	2.7	2.6	2.5	2.3
24				3.1	3.4	3.4	3.7	2.4	2.75	2.5	2.65	2.2
25					3.4	3.6	3.3	2.4	2.9	2.5	2.6	2.2
26				3.4	3.4	3.7	3.4	2.5	2.8	2.4	2.5	2.25
27				3.1	3.4	3.5	3.4	2.5	2.75	2.6	2.4	2.2
28				3.4	3.7	3.6	3.4	2.65	2.8	2.5	2.3	2.15
29				3.4		3.6	3.8	2.65	2.9	2.5	2.3	2.2
30				3.3		3.8	4.1	2.65	2.85	2.5	2.2	2.25
31				3.6		4.0		2.6		2.2	2.2	

NOTE:—Discharge relation affected by ice about Jan. 24 to Apr. 20.

Daily discharge, in second-feet, of Brule River near Florence, Wis.,  
for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1								1,600	453	589	401	351
2								1,460	453	506	401	351
3								1,600	453	561	351	305
4								1,210	427	534	305	305
5								968	506	589	305	351
6								848	645	589	305	305
7								702	848	589	305	351
8								702	730	506	305	401
9								788	788	561	305	401
10								788	788	453	328	351
11								968	788	589	305	351
12								968	730	702	328	351
13								1,030	702	673	376	401
14								1,090	673	673	328	427
15								968	673	561	351	376
16								968	617	534	328	351
17								788	506	534	328	351
18								617	480	534	376	453
19								561	453	453	453	480
20								561	351	561	453	453
21							1,400	506	305	702	506	401
22							1,270	506	305	617	427	376
23							1,270	453	561	506	453	351
24							1,150	401	589	453	534	305
25							908	401	673	453	506	305
26							968	453	617	401	453	328
27							968	453	589	506	401	305
28							968	534	617	453	351	284
29							1,210	534	673	453	351	305
30							1,400	534	645	453	305	328
31								506		305	305	

NOTE:—Daily discharge computed from a rating curve well defined between 305 and 968 second-feet (gage heights, 2.2 and 3.4 feet).  
Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, as follows: Jan 24–31, 225 second-feet; Feb. 1–10, 210 second-feet; Feb. 11–20, 195 second-feet; Feb. 21–28, 215 second-feet; Mar. 1–10, 270 second-feet; Mar. 11–20, 285 second-feet; Mar 21–31. 305 second-feet; Apr. 1–10, 320 second-feet; Apr. 11–15, 325 second-feet; and Apr. 16–30, 670 second-feet.

Monthly discharge of Brule River near Florence, Wis.,  
for the year ending Sept. 30, 1914.  
[Drainage area, 344 square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
January (24–31)			225	0.654	0.19	C
February			206	.599	.62	C
March			287	.834	.96	C
April			656	1.91	2.13	C
May	1,600	401	789	2.29	2.64	B
June	848	305	588	1.71	1.91	A
July	702	305	535	1.56	1.80	A
August	534	305	372	1.08	1.24	A
September	480	284	358	1.04	1.16	A

## PINE RIVER NEAR FLORENCE, WIS.

**Location.**—At highway bridge, 8 miles southwest of Florence, Wis., and 12 miles above mouth of the river. Popple River enters from the right about 2 miles above the station.

**Records available.**—January 22 to April 30, and June 1 to September 30, 1914.

**Drainage area.**—518 square miles.

**Gage.**—Standard chain gage fastened to guard rail on upstream side of bridge; read twice daily, morning and evening, to half-tenths.

**Control.**—Coarse gravel and stones; may shift during periods of extreme high water.

**Discharge measurements.**—At medium and high stages made from upstream side of bridge; at low stages by wading.

**Winter flow.**—Discharge relation affected by ice; flow determined from measurements made through the ice.

**Regulation.**—River used for log driving in spring; backwater at gage caused by closing of gates of a dam below; observations discontinued during such periods; incomplete gage-height record published probably represents natural flow.

**Accuracy.**—Gage height records good except for short periods immediately before or soon after the opening and closing of the dam below the gage. Data insufficient to warrant publication of estimates of daily discharge.

*Discharge measurements of Pine River near Florence, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet.
Jan. 22 (a).....	G. H. Canfield.....	2.80	205
Feb. 21 (a).....	H. C. Beckman.....	2.96	160
Mar. 25 (b).....	O. A. Steller.....	3.57	233
Apr. 15.....	M. F. Rather.....	3.35	337
June 30.....	H. C. Beckman.....	4.67	1,140
July 2.....	H. C. Beckman.....	4.20	962
Aug. 14.....	M. F. Rather.....	2.75	478

(a) Measurement made under complete ice cover.

(b) Original notes lost; data as given from unchecked daily report cards.

*Daily gage height, in feet, of Pine River near Florence, Wis.,  
for the year ending Sept. 30, 1914.*

[William Taft, observer]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1					2.7	3.0	3.6		3.2	4.6	3.5	3.3
2					2.7	2.9	3.6		3.1	4.3	2.8	3.4
3					2.7	3.0	3.4		3.1	4.0	2.7	3.5
4					2.7	2.9	3.4		3.3	3.6	2.6	3.4
5					2.7	3.0	3.4		3.3	3.4	2.35	3.2
6					2.7	2.9	3.4		3.0	3.2	2.35	3.0
7					2.7	3.0	3.4		3.0	2.85	2.4	3.2
8					2.7	2.9	3.4		2.1	2.65	2.5	3.4
9					2.6	3.0	3.4		2.85	2.35	2.4	3.2
10					2.6	2.9	3.4		2.65	2.3	2.4	2.85
11					2.6	2.9	3.5		2.6	1.98	2.4	2.8
12					2.6	3.0	3.4		2.4	3.4	2.3	2.95
13					2.6	3.0	3.4		2.3	4.2	2.55	4.0
14					2.7	3.0	3.4		2.1	4.4	2.7	3.9
15					2.6	3.0	3.4		2.0	4.1	2.8	3.7
16					2.6	2.1	3.6		2.0	4.0	2.7	3.6
17					2.6	2.9	3.8		2.0	3.6	3.2	3.4
18					2.6	2.8	4.1		1.92	3.4	3.4	3.2
19					2.6	2.9	4.7		1.88	2.5	3.6	3.0
20					2.6	3.0	4.8		1.80	2.4	4.2	3.0
21						3.0	2.9	4.6	2.05	2.35	4.4	2.9
22				2.8	2.9	3.0	4.4		2.45	2.25	4.5	2.8
23				2.8	2.8	2.9	4.8		2.8	2.85	4.8	2.7
24				2.8	2.8	3.0	5.4		2.9	2.7	5.2	2.6
25				2.7	2.9	3.0	5.8		2.95	2.55	5.2	2.5
26				2.8	2.8	3.5	6.1		3.0	3.4	5.0	2.4
27				2.8	2.9	3.5	6.3		3.9	3.6	4.6	3.4
28				2.8	3.0	3.4	6.9		5.0	4.0	4.4	3.4
29				2.8		3.5	8.4		4.8	3.8	4.2	2.95
30				2.8		3.4	8.2		4.7	3.7	3.4	2.8
31				2.8		3.5				3.6	3.0	

NOTE:—Discharge relation affected by ice about Jan. 22 to Apr. 15. During the month of May backwater from the logging dam was present. See "Regulation" in the station description.

### PIKE RIVER AT AMBERG, WIS.

**Location.**—At Chicago, Milwaukee & St. Paul Railway bridge, half a mile south of Amberg, Wis., immediately below the junction of the two branches of the Pike River, and about 11 miles above the mouth.

**Records available.**—February 26 to September 30, 1914.

**Drainage area.**—240 square miles.

**Gage.**—Chain gage fastened to guard rail on upstream side of bridge; read once daily in the morning, to quarter tenths; limits of use: hundredths below 2.0 feet, half tenths between 2.0 and 3.0 feet, and tenths above 3.0 feet.

**Control.**—Solid rock and some loose granite boulders; channel permanent but very rough at gage.

**Discharge measurements.**—At medium and high stages made from a highway bridge one quarter of a mile downstream from bridge to which gage is fastened; at extreme low-water by wading.

**Winter flow.**—Discharge relation affected by ice; estimated flow from discharge measurements made through the ice.

**Regulation.**—None.

**Accuracy.**—Rating curve well defined; records excellent.

Railroad Commission Report

Discharge measurements of Pike River at Amberg, Wis., during the year ending Sept. 30, 1914.

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
Feb. 26 (a)	H. C. Beckman	2.40	126
Mar. 21 (b)	O. A. Steller	1.84	162
Apr. 16 (c)	M. F. Rather	2.26	278
May 3 (d)	G. H. Canfield	3.22	586
May 8 (d)	G. H. Canfield	2.57	391
June 29	H. C. Beckman	4.21	992
June 29	H. C. Beckman	4.23	1,010
July 11	H. C. Beckman	3.64	779
Aug. 15	M. F. Rather	2.02	220

- (a) Measurement made under complete ice cover; about 50 per cent ice cover at the rapids below the gage.
- (b) Original notes lost; data as given from unchecked report.
- (c) No ice present.
- (d) Measurement made at highway bridge about one-half mile below gage.

Daily gage height, in feet, of Pike River at Amberg, Wis., for the year ending Sept. 30, 1914.

[Frank Bunce, observer]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1						2.75	2.55	4.0	1.95	3.7	2.8	2.5
2						2.5	2.55	3.6	1.88	3.6	2.6	2.55
3						2.15	2.35	3.2	1.82	3.4	2.5	2.5
4						2.15	2.3	3.0	2.20	3.2	2.4	2.5
5						2.0	2.0	2.85	2.35	2.95	2.4	2.3
6						2.0	2.15	2.7	2.25	2.7	2.4	2.4
7						2.0	2.1	2.7	2.2	2.5	2.25	2.4
8						1.95	2.0	2.6	2.15	2.3	2.15	2.3
9						1.95	1.50	2.55	2.05	2.2	2.1	2.25
10						1.95	2.05	2.5	1.95	2.1	2.1	2.2
11						1.9	2.0	2.4	1.85	2.0	2.05	2.3
12						1.95	1.95	2.4	1.80	2.7	2.0	2.35
13						1.85	1.90	2.4	1.78	3.6	2.0	2.3
14						2.0	2.0	2.35	1.75	4.5	2.05	2.3
15						2.1	2.05	2.25	1.72	4.3	2.05	2.7
16						2.05	2.25	2.2	1.70	3.6	2.15	2.85
17						2.15	2.35	2.2	1.68	3.2	2.35	2.8
18						2.1	2.4	2.15	1.65	2.8	2.45	2.65
19						1.75	2.7	2.1	1.75	2.5	2.6	2.55
20						1.65	2.9	2.1	1.85	2.45	2.8	2.45
21						1.75	2.8	2.1	1.95	2.35	2.85	2.35
22						1.70	2.65	2.2	2.05	2.25	2.7	2.3
23						1.80	2.5	2.3	2.15	2.5	2.85	2.25
24						1.75	2.4	2.25	2.5	2.7	3.4	2.2
25						1.90	2.5	2.2	2.75	2.7	3.4	2.2
26					2.4	2.05	2.7	2.2	2.7	2.5	3.2	2.15
27					2.3	1.75	2.85	2.15	2.8	2.7	2.9	2.15
28					2.45	2.0	2.9	2.1	3.8	3.5	2.6	2.1
29						2.0	3.6	2.1	4.2	3.8	2.45	2.1
30						2.7	4.2	2.05	3.9	3.4	2.4	2.05
31						2.7		1.98		3.1	2.5	

NOTE:—Discharge relation affected by ice about Feb. 26 to Apr. 10.

Daily discharge, in second-feet of Pike River at Audrey, Wis.,  
for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1								904	202	781	457	360
2								742	184	742	392	376
3								595	169	667	360	360
4								525	270	595	329	360
5								474	314	508	329	299
6								424	284	424	329	329
7								424	270	360	284	329
8								392	256	299	256	299
9								376	228	270	242	284
10								360	202	242	242	270
11							215	329	176	215	228	299
12							202	329	164	424	215	314
13							189	329	159	742	215	299
14							215	314	152	1,120	228	299
15							228	284	146	1,040	228	424
16							284	270	141	742	256	474
17							314	270	137	595	314	457
18							329	256	130	457	344	408
19							424	242	152	360	392	376
20							491	242	176	344	457	344
21							457	242	202	314	474	314
22							408	270	228	284	424	299
23							360	299	256	360	474	284
24							329	284	360	424	667	270
25							360	270	440	424	667	270
26							424	270	424	360	595	256
27							474	256	457	424	491	256
28							491	242	821	704	392	242
29							742	242	990	821	344	242
30							990	228	862	667	329	228
31								210		560	360	

NOTE:—Daily discharge computed from a rating curve well defined between 189 and 1,040 second-feet (gage heights, 1.9 and 4.3 feet).  
Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements, and climatologic records, as follows: Feb. 26-28, 122 second-feet; Mar. 1-10, 142 second-feet; Mar. 11-20, 154 second-feet; Mar. 21-31, 195 second-feet; and Apr. 1-10, 220 second-feet.

Monthly discharge of Pike River at Amberg, Wis., for the year ending  
Sept. 30, 1914.  
[Drainage area, 240 square miles.]

Month	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accu- racy.
	Maximum	Minimum	Mean	Per square mile.		
March			165	0.688	0.79	C
April	990		338	1.41	1.57	C
May	904	210	351	1.46	1.68	A
June	990	130	298	1.24	1.38	B
July	1,120	215	525	2.19	2.52	A
August	667	215	365	1.52	1.75	A
September	474	228	321	1.34	1.50	A

**PESHTIGO RIVER AT HIGH FALLS, WIS.**

**Location.**—In sec. 1, T. 32 N., R. 18 E., about half a mile downstream from the dam of the Wisconsin Public Service Company at High Falls, 1 mile above the mouth of Thunder Creek which enters from the right, and about 14 miles northwest of Ellis Junction.

**Records available.**—August 1, 1912, to September 30, 1914. Gage-height record continuous since completion of dam.

**Drainage area.**—585 square miles.

**Gage.**—A Barrett & Lawrence hydro-chronograph set out in river about 15 feet from left bank, protected by a large boulder, and reached by a stone dike. A small glass float in a vertical pipe with holes at the bottom controls the vertical movement of the pencil. The datum of the gage, is approximately 1,037 feet above sea level.

**Control.**—A riffle of coarse gravel about 50 feet below the gage; well-defined and probably permanent.

**Discharge measurements.**—Prior to November, 1914, made by wading or from a boat; satisfactory only at low stages because of swift current and rough section; after November, 1914, from a cable about one-fourth mile below the gage.

**Winter flow.**—Discharge relation not affected by ice as the river for two or three miles below the dam is kept open by the flow of relatively warm water from the reservoir.

**Regulation.**—Flow controlled by the operation of the gates and the turbines. Water seldom passes over the spillway of the dam. When the gates are closed the flow at the gage varies with the load on the turbines.

**Cooperation.**—Gage installed and gage-height records furnished by the Wisconsin Public Service Co.; material and labor for erection of the cable supplied through the cooperation of Mr. Clement C. Smith of Milwaukee, president of the company.

Mean gage height for the day obtained from record of the automatic gage; data withheld pending the preparation of a rating curve from which the daily discharge may be accurately determined for the gage-height record beginning August 12, 1912.

*Discharge measurement of Peshtigo River at High Falls, Wis.,  
during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Dis-charge
Jan. 17 (a).....	G. H. Canfield.....	Feet 1.22	Sec -feet 352

(a) Measurement made from boat 25 ft. below gage. No ice.



PESHTIGO RIVER NEAR CRIVITZ, WIS.

**Location.**—In NW.  $\frac{1}{4}$ , sec. 26, T. 32 N., R. 19 E., at Herman Farm,  $4\frac{1}{2}$  miles west of Crivitz, Wis.

**Records available.**—September 7, 1906, to November 5, 1910. Records published also in Water-Supply Papers 206, 244, and 264.

**Drainage area.**—670 square miles.

**Gage.**—Vertical staff gage, in two sections, driven into ground; datum uncertain during 1910.

**Discharge measurements.**—Made near gage section from boat held in place by a cable.

**Regulation.**—Flow may have been modified by logging operations.

**Winter flow.**—Discharge relation affected by ice.

**Accuracy.**—Records not verified by engineers of the U. S. Geol. Survey.

**Cooperation.**—Records furnished by D. W. Mead, consulting engineer, Madison, Wis.

Discharge measurements of Peshtigo River near Crivitz, Wis., during the years ending Sept. 30, 1906, 1907 and 1909.

Date	Made by	Gage height	Dis-charge
1906		Feet	Sec.-feet
Sept. 7.....	V. H. Reineking.....	3.4	657
Oct. 29.....	V. H. Reineking.....	4.2	1,020
Nov. 16.....	V. H. Reineking.....	3.2	562
1909			
Mar. 15 (a).....	G. A. Gray.....	1.05	318

(a) Ice present in river when measurement was made.

# Railroad Commission Report

*Daily gage height, in feet, of Peshtigo River near Crivitz, Wis.,  
for the years ending Sept. 30, 1906-1911.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1906</b>												
1												
2												
3												
4												
5												
6												
7												3.4
8												3.2
9												3.0
10												3.0
11												3.0
12												3.15
13												3.2
14												3.1
15												3.1
16												3.3
17												3.4
18												3.45
19												3.5
20												3.4
21												3.4
22												3.4
23												3.45
24												3.4
25												3.4
26												3.4
27												3.0
28												3.7
29												3.35
30												3.15
31												
<b>1906-7</b>												
1	3.0	3.7	4.2	3.2	3.3	2.9	4.6	4.7	3.8	3.85	2.7	2.5
2	2.95	3.75	4.0	3.1	3.15	2.9	4.65	4.6	3.7	3.95	2.65	2.5
3	2.3	3.5	3.9	3.1	3.2	2.95	4.5	4.6	3.8	3.7	2.6	2.4
4	3.25	3.4	3.9	3.1	3.3	3.0	4.55	4.8	3.7	3.0	2.6	2.5
5	3.0	3.4	3.8	3.2	3.3	2.95	4.5	4.8	2.7	3.25	2.65	2.5
6	3.0	3.35	3.6	3.1	3.45	3.0	4.35	4.9	3.0	3.75	2.65	2.55
7	2.95	3.35	3.6	3.1	3.45	3.0	4.35	5.0	3.2	3.0	2.65	2.6
8	3.0	3.4	3.5	3.05	3.25	2.9	4.2	5.1	3.5	3.65	2.65	2.7
9	3.0	3.4	3.6	2.75	3.2	2.95	4.2	5.15	3.35	2.8	2.6	2.8
10	3.05	3.5	3.55	3.2	3.05	3.0	4.0	4.1	4.25	3.15	2.6	2.8
11	2.8	3.5	3.5	3.2	3.1	3.0	4.0	5.2	3.9	2.5	2.6	2.9
12	3.2	3.45	3.3	3.25	3.05	2.9	4.0	4.4	3.75	2.45	2.7	3.0
13	3.05	3.4	3.35	3.3	3.05	2.8	3.95	4.3	4.45	2.3	2.65	3.1
14	3.0	3.3	3.3	3.2	3.1	2.8	2.7	4.0	4.0	2.3	2.6	3.05
15	3.0	3.25	3.3	3.25	3.1	2.75	3.8	5.55	4.0	2.2	2.55	3.0
16	3.0	3.2	3.3	3.3	3.15	2.85	3.5	5.7	2.9	2.3	2.55	2.95
17	3.0	3.4	3.3	3.3	3.1	2.8	2.7	5.8	3.25	2.9	2.5	2.95
18	3.05	3.5	3.3	3.0	3.05	2.75	2.8	5.75	2.5	2.85	2.5	2.95
19	3.3	3.5	3.35	3.0	3.05	3.0	2.8	5.6	2.9	2.85	2.55	3.65
20	3.5	3.45	3.4	2.95	3.1	2.85	2.8	5.3	3.95	2.8	2.6	3.85
21	3.7	3.5	3.2	3.1	3.0	3.0	2.8	4.9	4.0	2.75	2.65	4.0
22	3.8	3.3	3.2	3.0	3.0	3.05	2.85	5.1	3.5	2.7	2.7	3.95
23	3.8	3.3	3.25	3.0	2.9	3.3	2.9	5.0	3.05	2.7	2.7	3.8
24	3.9	3.35	3.15	3.1	2.9	3.5	3.0	4.65	3.0	2.7	2.7	3.65
25	4.0	3.4	3.1	3.15	2.9	3.7	3.0	4.85	2.75	2.7	2.7	3.55
26	4.1	3.8	3.1	3.15	2.9	3.95	3.0	4.55	2.75	2.8	2.65	3.35
27	4.2	4.0	3.05	3.2	3.0	3.9	3.0	4.3	2.7	2.7	2.6	3.2
28	4.15	4.2	3.15	3.25	2.9	4.4	3.2	4.25	3.0	2.7	2.6	3.05
29	4.2	4.3	3.1	3.3		4.65	4.4	4.2	2.6	2.7	2.6	3.0
30	4.0	4.25	3.05	3.3		4.8	4.7	4.05	2.6	2.6	2.55	2.95
31	3.9		3.1	3.25		4.65		4.0		2.6	2.55	

*Daily gage height, in feet, of Peshtigo River near Crivitz, Wis.,  
for the years ending Sept. 30, 1906-1911.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1907-8</b>												
1-----	2.95	2.6	2.55	2.5	2.7	3.05	2.6	5.7	3.4	2.8	2.4	2.25
2-----	2.95	2.6	2.55	2.5	2.9	3.1	2.6	5.6	2.4	2.7	2.4	2.2
3-----	2.9	2.6	2.5	2.5	2.9	3.1	2.55	5.4	3.3	3.0	2.4	2.2
4-----	2.9	2.6	2.5	2.45	2.85	3.1	2.6	4.6	3.25	3.15	2.35	2.2
5-----	2.9	2.6	2.5	2.45	2.9	3.1	2.8	4.25	3.2	2.45	2.35	2.2
6-----	2.8	2.6	2.5	2.4	2.9	3.3	2.9	3.8	2.6	3.0	2.35	2.2
7-----	2.8	2.55	2.6	2.4	2.9	3.3	3.05	3.65	3.25	3.95	2.3	2.2
8-----	2.75	2.55	2.5	2.4	2.95	3.2	3.1	3.2	2.7	3.8	2.3	2.15
9-----	2.7	2.55	2.6	2.4	2.95	3.2	3.05	3.0	3.7	3.75	2.3	2.15
10-----	2.7	2.5	2.6	2.6	2.9	3.25	3.3	3.2	3.65	3.85	2.3	1.85
11-----	2.7	2.5	2.55	2.5	2.9	3.3	3.35	3.8	3.65	3.2	2.25	1.9
12-----	2.7	2.45	2.5	2.5	3.0	3.25	3.7	3.2	2.7	2.7	2.25	2.0
13-----	2.7	2.6	2.45	2.55	3.05	3.0	3.9	4.0	2.7	3.0	2.3	2.0
14-----	2.7	2.25	2.4	2.5	3.05	2.75	3.5	3.3	3.25	2.45	2.3	2.0
15-----	2.75	2.25	2.5	2.5	3.05	2.6	4.4	3.8	3.2	2.6	2.25	2.8
16-----	2.8	2.25	2.5	2.5	3.0	2.6	4.35	3.9	3.4	2.4	2.3	2.3
17-----	2.75	2.6	2.5	2.6	2.95	2.5	4.35	3.8	3.25	3.3	2.3	2.25
18-----	2.75	2.55	2.5	2.6	2.95	2.45	4.3	4.0	3.0	2.7	2.3	2.15
19-----	2.7	2.55	2.5	2.5	2.95	2.4	4.2	4.0	2.9	2.7	2.3	2.15
20-----	2.7	2.5	2.55	2.5	2.95	2.4	3.2	4.0	2.8	3.3	2.3	2.15
21-----	2.65	2.6	2.45	2.5	3.05	2.45	3.0	4.75	2.3	2.8	2.5	2.15
22-----	2.6	2.65	2.55	2.5	3.05	2.45	2.8	5.0	2.4	3.75	2.3	2.15
23-----	2.6	2.65	2.5	2.45	3.05	2.6	2.9	4.65	3.2	2.4	2.3	2.2
24-----	2.6	2.6	2.45	2.65	3.05	2.5	3.0	4.7	3.3	3.5	2.25	2.2
25-----	2.85	2.6	2.45	2.6	3.0	2.5	3.6	4.1	2.9	2.95	2.25	2.2
26-----	2.75	2.6	2.45	2.5	3.0	2.5	4.65	3.85	3.2	2.8	2.25	2.2
27-----	2.65	2.6	2.45	2.5	3.05	2.5	4.8	3.75	2.3	2.75	2.25	2.2
28-----	2.6	2.6	2.5	2.5	3.05	2.5	5.3	3.7	2.4	2.7	2.25	2.4
29-----	2.6	2.55	-----	2.6	3.05	2.5	5.8	3.55	3.8	2.65	2.3	2.35
30-----	2.6	2.55	-----	2.6	-----	2.5	5.8	3.5	2.5	2.5	2.3	2.6
31-----	2.6	-----	-----	2.7	-----	2.75	-----	3.4	-----	2.5	2.25	-----
<b>1908-9</b>												
1-----	2.7	2.3	2.35	2.5	2.75	3.1	2.2	4.1	3.65	2.4	2.45	2.15
2-----	2.7	2.3	2.6	2.5	2.75	3.1	2.3	4.3	3.55	2.5	2.45	2.15
3-----	2.65	2.3	2.6	2.5	2.75	3.2	2.6	3.8	4.0	2.5	2.4	2.2
4-----	2.55	2.3	2.4	2.5	2.75	3.15	2.5	3.1	5.3	2.5	2.5	2.2
5-----	2.5	2.3	2.4	2.5	2.75	3.2	2.5	3.9	3.25	2.4	2.4	2.15
6-----	2.0	2.3	2.6	2.5	2.85	3.2	3.0	3.8	3.0	2.4	2.4	2.15
7-----	2.0	2.3	2.5	2.65	2.9	3.1	3.15	4.1	4.05	2.35	2.35	2.1
8-----	2.0	2.3	2.5	2.65	2.9	3.2	3.1	5.05	4.8	2.3	2.3	2.1
9-----	2.0	2.3	2.6	2.65	2.9	3.2	3.1	5.3	5.0	2.3	2.25	2.15
10-----	3.0	2.3	2.5	2.65	2.9	3.3	2.75	5.35	4.8	2.3	2.2	2.2
11-----	2.4	2.15	2.5	2.6	2.9	3.25	2.75	5.05	3.4	2.05	2.25	2.15
12-----	2.35	2.25	2.5	2.6	2.9	3.0	2.8	4.8	4.2	2.6	2.4	2.15
13-----	2.2	2.2	2.5	2.75	2.9	3.0	2.9	5.0	3.2	2.6	2.45	2.25
14-----	2.2	2.2	2.5	2.7	2.8	2.85	3.0	5.1	2.8	2.6	2.4	2.4
15-----	2.2	2.2	2.5	2.7	2.8	2.7	3.15	5.2	4.0	2.7	2.4	2.55
16-----	3.0	2.2	2.5	2.7	2.8	2.45	3.2	5.3	3.35	2.6	2.35	2.65
17-----	2.5	2.0	2.5	2.75	2.8	2.3	2.75	5.35	3.3	2.55	2.25	2.7
18-----	2.1	2.4	2.5	2.75	2.9	2.25	2.85	5.4	2.4	2.5	2.25	2.8
19-----	2.1	2.35	2.6	2.7	3.0	2.25	3.3	5.4	3.7	2.4	2.25	2.8
20-----	2.1	2.2	2.6	2.8	3.0	2.2	3.1	5.3	3.2	2.4	2.2	2.7
21-----	2.1	2.2	2.6	2.8	3.0	2.15	3.15	4.9	2.8	2.35	2.15	2.6
22-----	3.3	2.3	2.6	2.9	3.1	2.15	4.0	4.3	2.8	2.35	2.1	2.55
23-----	2.6	2.3	2.6	2.9	3.1	2.15	3.1	4.2	2.8	3.4	2.1	2.5
24-----	2.55	2.4	2.6	2.9	3.2	2.15	3.0	3.95	2.85	4.1	2.1	2.4
25-----	2.4	2.85	2.6	2.9	3.2	2.15	3.5	3.6	2.8	4.3	2.1	2.35
26-----	2.4	2.85	2.6	2.9	3.2	2.1	2.9	3.65	2.7	4.1	2.1	2.35
27-----	2.4	2.95	2.6	2.7	3.15	2.2	3.75	4.1	2.15	3.7	2.1	2.25
28-----	2.4	2.9	2.6	2.85	3.1	2.2	4.15	3.8	3.1	3.2	2.25	2.25
29-----	2.4	2.75	2.55	2.8	-----	2.2	4.0	3.5	2.6	3.0	2.2	2.25
30-----	2.4	2.7	2.6	2.75	-----	2.15	4.3	3.1	2.5	2.7	2.2	2.2
31-----	2.3	-----	2.5	2.75	-----	2.15	-----	3.0	-----	2.55	2.2	-----

*Daily gage height, in feet, of Peshtigo River near Crivitz, Wis.,  
for the years ending Sept. 30, 1906-1911.—(Concluded).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1909-10</b>												
1	2.2	2.45	3.15	2.20	2.30	2.60	3.41	4.66	3.46	3.11	2.61	3.26
2	2.2	2.65	3.05	2.10	2.30	2.60	3.21	4.51	3.46	3.01	2.61	2.91
3	2.2	2.8	3.0	2.10	2.30	2.60	3.01	4.26	3.46	3.01	2.61	2.81
4	2.2	2.8	2.95	2.10	2.25	2.60	3.01	3.26	3.46	3.01	2.61	2.81
5	2.15	2.8	3.0	2.10	2.20	2.60	3.21	4.01	3.46	3.01	2.56	2.81
6	2.15	2.75	3.1	2.35	2.20	2.70	3.41	4.71	3.71	3.01	2.41	3.91
7	2.15	2.7	3.0	2.35	2.20	2.70	4.71	3.41	3.71	3.01	2.31	3.61
8	2.15	2.6	2.7	2.30	2.30	2.70	4.91	3.26	3.71	2.76	2.31	3.51
9	2.15	2.55	3.0	2.30	2.30	2.50	4.91	3.71	3.71	2.91	2.31	3.51
10	2.15	2.5	3.1	2.25	2.30	2.40	3.56	3.46	3.71	2.91	2.31	3.51
11	2.2	2.5	3.1	2.20	2.30	2.40	3.51	3.31	3.51	2.91	2.31	2.91
12	2.2	2.5	3.0	2.20	2.30	2.80	3.71	3.61	3.46	2.96	2.31	3.01
13	2.15	2.8	3.0	2.20	2.30	3.51	2.41	3.51	3.36	2.96	2.51	2.86
14	2.15	3.0	2.7	2.20	2.30	3.51	3.21	3.46	3.36	2.96	2.51	2.86
15	2.2	3.15	2.7	2.15	2.30	3.51	3.21	3.61	3.36	2.91	2.71	3.01
16	2.2	3.45	2.7	2.15	2.35	3.51	3.16	3.71	3.36	2.91	2.71	2.91
17	2.2	3.5	2.65	2.10	2.40	3.51	3.41	3.71	3.36	2.91	2.71	3.26
18	2.2	3.4	2.65	2.15	2.40	3.51	3.46	3.51	3.41	2.91	3.21	3.51
19	2.2	3.4	2.6	2.15	2.30	3.71	3.46	3.51	3.41	2.86	4.51	3.51
20	2.2	3.2	2.6	2.15	2.40	3.11	3.31	2.71	3.41	2.86	4.51	3.51
21	2.25	3.15	2.7	2.15	2.30	3.11	3.11	3.56	3.36	2.86	3.31	3.51
22	2.2	2.95	2.6	2.20	2.35	3.41	3.51	3.56	3.21	2.86	3.31	3.21
23	2.2	2.9	2.4	2.20	2.40	3.61	3.41	3.56	3.21	2.81	3.61	3.21
24	2.3	2.9	2.2	2.15	2.40	3.61	3.51	3.56	3.21	2.76	3.01	3.31
25	2.3	3.0	2.3	2.15	2.40	3.61	3.56	3.41	3.21	2.76	3.26	3.31
26	2.3	3.0	2.2	2.15	2.40	3.61	3.56	3.36	3.21	2.76	2.71	3.26
27	2.3	2.95	2.1	2.20	2.50	3.66	4.11	3.36	3.16	2.71	2.71	3.26
28	2.3	2.95	2.1	2.20	2.55	3.51	4.51	3.31	3.16	2.71	2.81	3.25
29	2.25	3.0	2.1	2.20	-----	3.51	5.71	3.31	3.16	2.61	2.96	3.20
30	2.25	2.9	2.1	2.30	-----	3.41	5.71	3.31	3.16	2.61	3.16	3.15
31	2.25	-----	2.25	2.30	-----	3.41	-----	3.31	-----	-----	3.41	-----
<b>1910-11</b>												
1	3.00	5.00	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2	2.90	4.20	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3	2.90	4.05	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4	3.05	4.05	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5	3.05	4.00	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6	3.00	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7	3.00	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8	3.00	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
9	3.00	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10	3.00	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
11	3.05	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12	3.05	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
13	3.05	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
14	3.05	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
15	3.05	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
16	3.05	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
17	3.05	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
18	3.15	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
19	3.20	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
20	3.05	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
21	2.90	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
22	3.05	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
23	3.00	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
24	3.00	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
25	2.95	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
26	3.25	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
27	3.40	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
28	3.40	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
29	3.40	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
30	3.50	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
31	3.75	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

NOTE:—Discharge relation probably affected by ice about Jan. 1 to Mar. 31, 1907; Dec. 1, 1907 to Apr. 10, 1908; Dec. 1, 1908 to Mar. 31, 1909; and Dec. 1, 1909 to Mar. 31, 1910.

PESHTIGO RIVER AT CRIVITZ, WIS.

**Location.**—At the Chicago, Milwaukee & St. Paul Railway bridge, one-fourth mile south of Crivitz post office (or Ellis Junction railroad station).

**Records available.**—April 20 to December 12, 1906. Data published also in U. S. Geol. Survey Water-Supply Paper 206.

**Drainage area.**—Not measured.

**Gage.**—Chain gage attached to upstream side of railroad bridge.

**Control.**—Bed of river, gravel.

**Discharge measurements.**—Made from upstream side of bridge to which gage is attached.

Discharge measurements of Peshtigo River at Crivitz, Wis., during the year ending Sept. 30, 1906.

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
Apr. 20.....	Horton and Brennan.....	9.88	2,520
June 8.....	M. S. Brennan.....	9.70	2,030
June 29.....	M. S. Brennan.....	8.26	1,560

Daily gage height, in feet, of Peshtigo River at Crivitz, Wis., for the years ending Sept. 30, 1906-1907.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1906												
1.....								8.9	7.9	6.2	4.3	5.7
2.....								8.4	6.8	6.0	5.6	6.1
3.....								9.5	6.7	6.1	5.0	5.5
4.....								7.2	6.4	6.0	4.3	6.6
5.....								7.9	6.7	8.5	5.3	6.6
6.....								8.4	7.9	7.1	5.8	6.2
7.....								6.6	8.5	6.8	5.8	6.2
8.....								7.3	8.4	6.6	6.1	5.6
9.....								8.2	9.7	6.8	5.9	5.6
10.....								6.4	9.8	6.5	5.8	4.0
11.....								7.1	7.4	6.1	5.7	5.5
12.....								5.9	6.9	6.6	5.9	5.8
13.....								6.7	7.7	6.2	5.5	5.7
14.....								6.5	7.3	6.0	6.4	5.7
15.....								7.7	8.4	6.6	5.0	5.4
16.....								6.5	8.3	6.5	5.5	5.5
17.....								6.5	6.2	6.8	5.2	5.8
18.....								6.0	6.1	6.4	5.3	5.9
19.....								6.7	6.3	6.5	5.3	6.5
20.....							9.8	6.2	7.5	6.1	5.6	6.0
21.....							10.4	6.5	7.5	6.6	5.3	5.8
22.....							10.7	6.7	8.5	6.5	5.7	5.8
23.....							10.6	6.6	8.4	5.8	5.6	5.7
24.....							10.5	6.5	8.5	5.3	5.4	5.7
25.....							9.9	7.1	8.5	5.4	6.2	5.9
26.....							9.3	6.6		5.7	5.2	5.7
27.....							8.5	8.4		5.7	6.1	5.9
28.....							8.6	8.7		5.7	6.0	6.4
29.....							8.5	7.4	6.9	5.8	6.8	6.0
30.....							8.1	7.7	7.0	5.6	6.1	5.7
31.....								7.9		5.3	6.0	

Daily gage height, in feet, of Peshtigo River at Crivitz, Wis.,  
for the years ending Sept. 30, 1906-1907—(Concluded.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1906-07												
1	5.7	6.7	6.9									
2	5.4	6.3	7.0									
3	5.2	6.7	7.4									
4	4.0	6.2	6.5									
5	5.4	5.7	6.2									
6	5.3	5.9	6.3									
7	5.4	5.9	6.5									
8	5.4	5.9	6.2									
9	5.2	5.8	6.0									
10	5.7	5.7	6.1									
11	5.3	5.9	5.8									
12	5.4	6.0	6.2									
13	5.6	5.9										
14	5.4	6.0										
15	5.6	6.0										
16	5.3	5.9										
17	5.4	5.9										
18	5.3	6.1										
19	5.4	5.7										
20	5.6	5.7										
21	6.6	5.8										
22	6.5	6.0										
23	6.6	5.9										
24	6.7	5.8										
25	6.8	5.8										
26	6.9	7.0										
27	7.5	6.8										
28	7.3	7.2										
29	7.2	6.8										
30	6.8	6.9										
31	6.7											

OCONTO RIVER NEAR GILLETT, WIS.

**Location.**—At steel highway bridge, 2½ miles southeast of Gillett, Wis., and about 27 miles above mouth of river.

**Records available.**—June 7, 1906, to March 30, 1909; January 6 to September 30, 1914. Data for period of June 7, 1906 to March 30, 1909, published also in U. S. Geol. Survey Water-Supply Papers 206, 244, and 264.

**Drainage area.**—678 square miles.<sup>1</sup>

**Gage.**—Chain gage attached to iron railing on upstream side of bridge; read once daily, to quarter tenths; limits of use: hundredths below 1.0 foot, half-tenths between 1.0 and 2.5 feet, and tenths above 2.5 feet. Zero of gage used for January 16 to December 31, 1914, is 4 feet above that of gage used June 7, 1906 to March 31, 1909.

**Control.**—Gravel; probably permanent; free from vegetation.

**Discharge measurements.**—Made from upstream side of bridge to which gage is fastened.

**Winter flow.**—Discharge relation affected by ice; flow determined from discharge measurements made through the ice.

**Artificial regulation.**—A dam located above the station stores water to float logs during the spring; except when above dam is in operation flow at the gage is natural.

**Accuracy.**—Rating curve well defined; records excellent.

<sup>1</sup> Measurement revised since Water-Supply Paper 264 was published.

Discharge measurements of Oconto River near Gillett, Wis.,  
during the year ending Sept. 30, 1914.

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
Feb. 18 (a)	H. C. Beckman	2.60	324
Mar. 20 (b)	O. A. Steller	2.67	462
Apr. 18	M. F. Rather	1.83	686
May 20	H. C. Beckman	1.54	538
Aug. 13	M. F. Rather	1.45	500
Aug. 13	M. F. Rather	1.43	494

(a) Measurement made under complete ice cover.  
(b) Original notes lost; data as given from unchecked daily report cards.

Daily gage height, in feet, of Oconto River near Gillett, Wis.,  
for the year ending Sept. 30, 1914.  
[Nettie Gilbertson, Observer]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1					2.6	2.4	2.3	3.8	1.7	3.5	1.9	1.8
2					2.6	2.4	2.4	3.8	1.65	3.3	1.9	1.85
3					2.6	2.4	2.1	3.6	1.85	3.4	1.7	1.9
4					2.6	2.4	2.1	3.0	1.95	3.4	1.7	1.85
5					2.4	2.4	1.85	3.2	2.35	3.0	2.0	1.8
6					2.6	2.5	1.85	3.2	2.4	2.6	2.4	1.7
7					2.6	2.5	1.85	2.7	2.8	2.8	1.5	1.7
8					2.5	2.4	1.7	3.2	2.5	2.7	1.8	1.6
9					3.0	2.6	1.85	2.45	2.6	2.15	1.55	1.1
10					2.5	2.45	1.75	2.5	2.3	2.25	1.6	1.45
11					2.6	2.6	1.65	2.45	1.9	2.2	a.70	1.6
12					2.6	2.6	1.6	2.4	1.9	1.8	1.4	1.6
13					2.6	2.6	1.5	2.35	1.7	2.5	1.4	1.5
14					2.5	2.6	1.7	2.1	1.65	1.85	1.4	1.35
15					2.4	2.7	1.65	2.3	1.6	2.5	1.25	1.6
16				3.2	2.6	4.1	1.65	3.4	1.6	2.0	1.5	2.2
17				3.3	2.5	2.7	1.65	3.6	1.5	2.2	1.65	2.4
18				3.1	2.5	2.9	1.75	1.25	1.4	2.15	1.4	2.3
19				3.0	2.5	2.8	1.85	1.35	1.6	1.85	1.75	2.3
20				3.0	2.3	2.6	1.95	1.6	1.6	1.9	1.65	2.2
21				2.8	2.4	2.5	1.8	2.0	2.6	1.9	2.2	2.1
22				2.8	2.4	2.5	2.45	1.9	1.7	1.75	1.8	2.0
23				2.8	2.45	2.5	1.75	2.35	1.65	1.7	1.9	1.65
24				2.8	2.45	2.3	2.15	2.5	1.65	1.55	1.65	1.2
25				2.8	2.3	1.6	2.4	2.5	1.7	1.5	1.8	1.4
26				2.8	2.4	1.5	2.6	2.45	2.0	1.45	1.75	1.3
27				2.7	2.25	1.6	2.7	2.3	2.5	1.65	1.7	1.35
28				2.7	2.4	1.45	3.0	2.25	2.3	1.5	1.8	1.4
29				2.9		2.25	3.1	1.75	3.1	1.6	1.7	1.4
30				2.8		1.85	3.8	2.3	3.0	1.95	1.7	1.4
31				2.8		2.1		2.0		2.15	1.7	

(a) Gage height apparently 1.0 ft. too low.  
NOTE:—Discharge relation affected by ice about Jan. 16 to Mar. 25.

## Railroad Commission Report

*Daily discharge, in second-feet, of Oconto River near Gillett, Wis.,  
for the years ending Sept. 30, 1906-1909; 1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1906</b>												
1										525	263	403
2										580	247	403
3										700	263	700
4										982	263	700
5										730	115	580
6												
7										885	126	640
8									852	885	296	640
9									885	760	312	346
10									982	730	279	424
11									950	640	382	448
12												
13									852	640	525	472
14									820	640	700	448
15									1,020	580	472	424
16									982	382	472	670
17									640	424	472	312
18												
19									670	424	525	982
20									640	760	472	760
21									640	346	279	760
22									346	329	188	820
23									525	346	424	885
24												
25									700	346	424	885
26									885	580	424	382
27									885	346	820	472
28									1,020	312	640	580
29									790	296	760	580
30												
31									730	279	885	580
									670	263	1,080	580
									730	263	1,020	525
									730	161	950	364
									670	247	820	346
										247	640	
<b>1906-07</b>												
1	382	918					1,670	1,080	1,830	1,330	364	312
2	525	885					1,750	1,670	174	580	382	312
3	424	820					950	1,220	95	640	448	279
4	424	760					1,220	1,370	364	700	346	247
5	312	760					1,410	1,220	346	424	312	188
6												
7	382	790					1,370	820	95	382	640	312
8	525	700					1,260	1,120	279	382	580	279
9	525	760					1,520	1,020	382	312	346	279
10	382	760					1,440	1,830	188	472	188	346
11	424	700					950	760	1,670	279	188	382
12												
13	346	217					1,300	1,750	346	232	217	580
14	472	700					1,080	1,950	424	885	217	525
15	982	525					885	700	950	1,600	137	580
16	137	700					1,300	950	1,020	188	149	700
17	498	580					950	1,910	1,160	820	161	640
18												
19	472	580					640	1,020	820	346	424	640
20	472	852					790	1,990	700	346	137	525
21	472	820					918	1,020	885	918	263	610
22	760	1,020					1,050	1,670	820	346	232	424
23	885	1,020					1,050	1,910	382	472	217	1,120
24												
25	950	1,120					950	1,410	1,020	552	247	1,220
26	885	1,080					1,670	1,220	1,870	424	296	1,440
27	1,020	1,050					950	1,600	1,050	424	137	1,440
28	982	982					1,300	1,220	1,910	670	382	1,600
29	820	700					1,990	552	820	580	346	982
30												
31	950	1,630					1,990	885	2,400	918	424	950
	1,160	1,830					1,990	1,080	552	1,830	424	820
	1,160	1,870					2,190	1,160	346	1,910	382	885
	1,370	1,830					1,870	1,990	279	217	346	885
	1,080	1,750					1,790	950	247	2,320	382	950
	950						1,670		279		382	



[illegible]

Daily discharge, in second-feet, of Oconto River near Gillett, Wis.,  
for the years ending Sept. 30, 1906-1909; 1914.—(Concluded).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1914												
1							960	2,020	615	1,790	725	670
2							1,020	2,020	590	1,640	725	698
3							840	1,860	698	1,720	615	725
4							840	1,430	752	1,720	615	698
5							698	1,570	992	1,430	780	670
6							698	1,570	1,020	1,160	1,020	615
7							698	1,220	1,290	1,290	515	615
8							615	1,570	1,090	1,220	670	565
9							698	1,060	1,160	870	540	342
10							642	1,090	960	930	565	492
11							590	1,060	725	900	209	565
12							565	1,020	725	670	468	565
13							515	992	615	1,090	468	515
14							615	840	590	698	468	446
15							590	960	565	1,090	403	565
16							590	1,720	565	780	515	900
17							590	1,860	515	900	590	1,020
18							642	403	468	870	468	960
19							698	446	565	698	642	960
20							752	565	565	725	590	900
21							670	780	1,160	725	900	840
22							1,060	725	615	642	670	780
23							642	992	590	615	725	590
24							870	1,090	590	540	590	382
25							1,020	1,090	615	515	670	468
26						515	1,160	1,060	780	492	642	424
27						565	1,220	960	1,090	590	615	446
28						492	1,430	930	960	515	670	468
29						930	1,500	642	1,500	565	615	468
30						698	2,020	960	1,430	752	615	468
31						840		780		870	615	

(a) Estimated.

NOTE:—Daily discharge, for 1914, computed from a rating curve well defined between 515 and 1,090 second-feet (gage heights, 1.5 and 2.5 feet), and fairly well defined beyond these limits.

Discharge for 1914 estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, as follows: Jan. 15-31, 670 second-feet; Feb. 1-10, 405 second-feet; Feb. 11-20, 310 second-feet; Feb. 21-28, 250 second-feet; Mar. 1-10, 300 second-feet; and Mar. 11-25, 440 second-feet.

Monthly discharge of Oconto River near Gillett, Wis., for the years ending Sept. 30, 1906-1909; 1914.  
[Drainage area, 678 (a) square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1906						
June (7-30).....	1,020	346	776	1.14	1.02	A
July.....	982	161	504	.743	.86	A
August.....	1,080	115	501	.739	.85	A
September.....	982	312	570	.841	.94	A
1906-07						
October.....	1,370	137	682	1.01	1.16	A
November.....	1,870	217	957	1.41	1.57	A
December.....						
January.....						
February.....						
March (23-31).....	2,190		1,810	2.67	.89	A
April.....	1,990	552	1,160	1.71	1.91	A
May.....	2,400	247	1,230	1.81	2.09	A
June.....	2,320	95	844	1.24	1.38	A
July.....	1,600	188	520	.767	.88	A
August.....	640	137	291	.429	.49	B
September.....	1,600	188	682	1.01	1.13	A
1907-08						
October.....	790	279	474	.699	.81	A
November.....	885	247	476	.702	.78	A
December.....			331	.488	.56	D
January.....			317	.468	.54	D
February.....			337	.497	.54	D
March.....	1,220		486	.717	.83	D
April.....	2,550	515	1,050	1.55	1.73	A
May.....	2,630	780	1,450	2.14	2.47	A
June.....	780	305	575	.848	.95	A
July.....	1,500	324	733	1.08	1.24	A
August.....	670	105	261	.385	.44	B
September.....	382	209	285	.420	.47	B
The year.....			566	.835	11.36	
1908-09						
October.....	424	239	347	.512	.59	A
November.....	515	209	364	.537	.60	A
December.....			275	.406	.47	D
January.....			293	.432	.50	D
February.....			289	.426	.44	C
March.....			331	.488	.56	C
1914						
January (16-31).....			670	.988	.59	C
February.....			327	.482	.50	C
March.....			440	.649	.75	C
April.....	2,020	515	848	1.25	1.40	A
May.....	2,020	403	1,140	1.68	1.94	B
June.....	1,500	468	813	1.20	1.34	A
July.....	1,790	492	936	1.38	1.59	A
August.....	1,020	209	610	.900	1.04	A
September.....	1,020	342	627	.925	1.03	A

(a) Revised since last published report.  
NOTE:—Monthly discharge for December, 1907 to Mar. 1908, estimated from six discharge measurements made during the period; estimate for December, 1908, roughly approximated. Monthly discharge, January to March, 1909, estimated from two discharge measurements and observer's notes.

OCONTO RIVER AT STILES, WIS.

**Location.**—In the village of Stiles, Wis., immediately below dam.  
**Records available.**—April 20 to June 6, 1906. Data published also in U. S. Geol. Survey Water-Supply Paper 206.  
**Gage.**—Vertical staff; read once daily to nearest tenth of a foot.  
**Regulation.**—Daily flow controlled to a large extent by operation of the gates at dam above station.

Discharge measurements of Oconto River at Stiles, Wis., during the year ending Sept. 30, 1906.

Date	Made by	Gage height	Discharge
Apr. 20.....	Horton and Brennan.....	Feet 4.74	Sec.-feet 2,510
June 6 .....	M. S. Brennan.....	2.71	988

Daily gage height, in feet, of Oconto River at Stiles, Wis., for the year ending Sept. 30, 1906.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1.....								4.0	3.0			
2.....								3.8	2.4			
3.....								3.6	3.2			
4.....								3.8	2.5			
5.....								3.3	2.7			
6.....								4.5	2.8			
7.....								2.8				
8.....								4.5				
9.....								4.2				
10.....								4.2				
11.....								4.1				
12.....								4.4				
13.....								4.7				
14.....								3.4				
15.....								4.4				
16.....								4.2				
17.....								3.8				
18.....								4.0				
19.....								4.4				
20.....							4.9	2.6				
21.....							4.8	4.0				
22.....							4.7	4.1				
23.....							4.4	4.0				
24.....							4.6	4.1				
25.....							4.6	3.3				
26.....							4.8	3.7				
27.....							4.6	2.8				
28.....							4.3	3.3				
29.....							3.8	2.3				
30.....							3.8	3.1				
31.....								3.3				

FOX RIVER AT OMRO, WIS.

**Location.**—At city highway bridge in Omro, Wis., 2,500 feet from the Chicago, Milwaukee & St. Paul Railway station.

**Records available.**—November 25, 1902, to July 25, 1903. Records published also in U. S. Geol. Survey Water-Supply Papers 83 and 97.

**Gage.**—Vertical staff gage fastened to pile protecting center pier of the 5 span highway bridge; read morning and evening to nearest tenth.

**Control.**—Soft mud; heavily overgrown with weeds except in the navigable channel.

**Discharge measurements.**—Made from the bridge.

*Discharge measurements of Fox River at Omro, Wis., during the years ending Sept. 30, 1902-1903.*

Date	Made by	Gage height	Discharge
1902		Feet	Sec.-feet
Nov. 22-----	L. R. Stockman-----	4.60	680
1903			
Dec. 13-----	L. R. Stockman-----	4.50	600
Jan. 6 (a)-----	L. R. Stockman-----	4.70	625
Jan. 26 (a)-----	L. R. Stockman-----	4.50	536
Feb. 21 (a)-----	L. R. Stockman-----	4.20	549
Mar. 25-----	L. R. Stockman-----	6.60	2,980
Apr. 15-----	L. R. Stockman-----	6.20	1,450
May 11-----	L. R. Stockman-----	5.70	625
June 4-----	L. R. Stockman-----	6.05	1,050
June 20-----	L. R. Stockman-----	5.50	691

(a) Ice present in river when measurement was made.

*Daily gage height, in feet, of Fox River at Omro, Wis., for the year ending Sept. 30, 1903.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1-----			4.65	4.7	4.4	4.9	6.4	5.7	6.3	5.3		
2-----			4.6	4.75	4.4	4.75	6.55	5.7	6.25	5.3		
3-----			4.65	4.7	4.4	4.7	6.6	5.7	6.15	5.2		
4-----			4.65	4.7	4.5	4.7	6.4	5.7	6.1	5.2		
5-----			4.7	4.7	4.45	4.8	6.4	5.7	6.0	5.2		
6-----			4.7	4.7	4.4	4.9	6.4	5.65	6.0	5.2		
7-----			4.5	4.7	4.4	5.2	6.3	5.6	6.0	5.2		
8-----			4.5	4.7	4.4	5.35	6.2	5.55	6.0	5.2		
9-----			4.5	4.75	4.4	5.55	6.2	5.5	6.0	5.3		
10-----			4.5	4.55	4.45	5.75	6.2	5.55	6.0	5.3		
11-----			4.5	4.6	4.5	6.0	6.3	5.65	6.0	5.4		
12-----			4.5	4.6	4.5	6.55	6.3	5.6	6.0	5.3		
13-----			4.5	4.6	4.45	6.75	6.4	5.6	5.9	5.3		
14-----			4.5	4.6	4.5	6.05	6.4	5.85	5.9	5.3		
15-----			4.5	4.55	4.5	5.85	6.2	5.80	5.75	5.3		
16-----			4.55	4.6	4.5	5.7	6.2	5.6	5.8	5.2		
17-----			4.5	4.5	4.4	5.75	6.1	5.6	5.7	5.2		
18-----			4.55	4.5	4.3	5.7	6.1	5.7	5.6	5.1		
19-----			4.55	4.5	4.3	6.2	6.0	5.6	5.6	5.1		
20-----			4.65	4.5	4.3	6.3	6.0	5.6	5.6	5.1		
21-----			4.7	4.5	4.2	6.3	5.9	5.8	5.7	5.1		
22-----			4.8	4.5	4.2	6.35	5.9	5.8	6.65	5.1		
23-----			4.8	4.5	4.2	6.45	5.9	5.85	5.6	5.0		
24-----			4.8	4.45	4.2	6.5	5.9	5.85	5.5	5.0		
25-----		4.7	4.8	4.4	4.2	6.5	5.9	5.9	5.5	5.0		
26-----		4.75	4.7	4.4	4.2	6.5	5.95	6.05	5.4			
27-----		4.6	4.7	4.5	4.6	6.5	5.9	6.2	5.4			
28-----		4.5	4.7	4.5	5.1	6.1	5.9	6.25	5.4			
29-----		4.6	4.75	4.5		6.6	5.8	6.3	5.4			
30-----		4.5	4.8	4.5		6.6	5.8	6.25	5.4			
31-----			4.8	4.5		6.4		6.2				

**FOX RIVER AT OSHKOSH, WIS.**

**Location.**—At Wisconsin Ave. highway bridge in Oshkosh, Wis.

**Records available.**—November 26 to December 31, 1902. Records published also in Water-Supply Paper 83.

**Gage.**—Vertical staff fastened to guard of center pier; read morning and evening to nearest tenth of a foot.

**Control.**—Loam and clay.

**Discharge measurements.**—Made from Wisconsin Ave. Bridge.

**Accuracy.**—This station was within reach of backwater from Lake Winnebago; stage of water depended to a considerable extent on the direction of wind on the lake.

The following discharge measurement was made by L. R. Stockman:  
November 26, 1902: Gage height, 4.15; discharge, 4,930 second-feet.

*Daily gage height, in feet, of Fox River at Oshkosh, Wis.,  
for the year ending Sept. 30, 1903.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1			4.05									
2			4.15									
3			4.15									
4			4.1									
5			4.1									
6			4.1									
7			4.1									
8			4.05									
9			4.05									
10			4.05									
11			4.05									
12			4.05									
13			4.0									
14			4.0									
15			4.0									
16			4.0									
17			4.0									
18			4.0									
19			4.0									
20			4.05									
21			4.05									
22			4.05									
23			4.1									
24			4.1									
25			4.05									
26		4.15	4.1									
27		4.2	4.1									
28		4.1	4.1									
29		3.9	4.1									
30		3.95	4.1									
31			4.1									

### FOX RIVER AT RAPIDE CROCHE DAM, NEAR WRIGHTSTOWN, WIS.

**Location.**—At Rapide Croche Dam about 2 miles southwest of Wrightstown, 19 miles below its outlet from Lake Winnebago, and 20 miles above its mouth in Green Bay.

**Records available.**—March 3, 1896, to September 30, 1914, record of daily discharge copied from records of Army Engineer Corps.

**Drainage area.**—6,230 square miles.

**Gage.**—Vertical staff gage, read at all stages to nearest half-tenth, five times a day, at 7 a. m., 9 a. m., 12 m., 3 p. m., and 6 p. m.

**Control.**—Crest of the dam, a rock-filled timber structure.

**Determination of flow.**—The dam is operated for navigation only; discharge determined by computing the flow over the spillway by means of a weir formula, using the mean of the observed daily gage heights to give head on crest of the weir.

**Regulation.**—Flow past the gage regulated by numerous dams and power plants on the river above.

**Cooperation.**—Records were furnished by the Army Engineer Corps, through Major H. B. Ferguson of Milwaukee.

*Daily discharge, in second-feet, of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1896</b>												
1							1,270	2,000	2,790	3,690	2,580	259
2							1,030	2,090	4,250	3,730	1,050	299
3						1,390	922	1,560	4,250	3,760	1,510	179
4						1,220	761	1,640	4,140	2,030	2,310	78
5						1,400	1,050	3,490	4,280	880	2,460	36
6						1,340	780	3,170	3,970	1,820	2,580	36
7						1,430	740	3,310	3,900	3,590	2,610	179
8						1,110	922	2,990	3,140	3,390	2,490	328
9						920	859	3,230	4,460	3,860	1,250	390
10						1,270	964	2,030	4,280	3,730	1,390	121
11						1,480	859	1,580	4,600	3,760	1,820	192
12						1,410	406	3,360	4,390	2,200	1,820	134
13						1,410	644	3,430	4,110	1,950	1,760	49
14						1,270	859	3,480	3,300	3,590	1,720	49
15						982	922	3,560	2,910	3,530	2,010	205
16						838	985	3,390	4,040	3,530	985	145
17						1,440	1,050	2,680	3,800	3,690	1,350	192
18						1,250	985	2,460	3,900	3,300	2,010	134
19						1,490	644	3,590	3,900	1,870	2,030	78
20						1,370	608	3,900	3,900	1,670	2,060	20
21						1,410	943	3,900	2,430	2,910	2,010	17
22						1,020	943	3,900	2,460	2,610	1,900	145
23						1,020	901	4,070	3,970	2,310	245	134
24						1,740	985	2,730	4,210	2,610	838	36
25						1,460	1,270	2,390	3,930	2,610	328	112
26						1,220	556	3,930	4,140	1,560	123	123
27						1,180	780	4,250	3,900	1,560	259	27
28						1,270	1,030	4,070	2,610	2,910	375	10
29						1,000	1,760	4,140	2,170	2,670	406	375
30						1,520		4,070	3,690	2,490	453	134
31						1,710		2,380		2,580	312	
<b>1896-97</b>												
1	145	985	2,820	2,200	1,560	1,490	3,630	5,340	3,260	3,760	2,310	486
2	608	1,050	3,140	2,170	3,040	3,260	4,040	4,070	3,660	3,860	1,760	521
3	838	1,510	3,230	1,510	3,360	3,260	4,970	4,000	3,730	4,040	3,100	343
4	608	1,540	3,560	2,090	3,100	3,140	3,300	4,790	3,730	2,490	3,100	328
5	683	1,870	3,140	2,790	3,070	3,390	4,040	5,080	3,760	1,300	3,230	328
6	1,440	1,870	1,950	3,100	3,260	2,610	5,620	4,710	2,200	2,170	3,070	390
7	880	1,790	2,370	3,390	1,440	1,180	6,330	4,600	2,400	4,000	3,040	272
8	1,070	1,560	2,820	3,010	1,560	1,390	6,330	4,350	3,360	4,070	1,930	539
9	880	1,090	2,790	2,760	3,010	2,430	6,530	3,200	3,230	3,930	1,420	702
10	1,090	2,200	2,910	2,610	3,360	2,490	6,530	2,760	3,330	3,930	2,760	556
11	608	2,230	2,910	2,290	3,040	2,460	5,230	4,350	3,460	2,400	2,610	664
12	780	2,640	2,730	3,070	3,200	2,580	4,790	4,500	3,660	2,400	2,490	390
13	1,090	2,730	1,650	3,200	3,200	2,460	6,610	4,460	2,230	3,460	2,490	390
14	964	2,730	1,670	3,070	2,170	1,510	6,410	4,140	2,230	3,560	2,610	819
15	922	1,120	2,520	3,040	1,300	1,160	6,530	4,430	3,390	3,690	1,440	1,420
16	1,090	1,160	2,460	2,820	3,100	2,490	6,330	3,330	4,750	3,900	1,340	1,420
17	1,140	2,460	2,610	1,650	3,070	2,310	6,780	2,910	4,040	3,690	2,430	1,440
18	608	2,730	2,580	1,870	3,230	2,520	7,070	4,110	3,730	2,230	2,640	1,210
19	722	2,670	2,580	3,230	3,200	3,460	5,420	4,280	3,730	2,010	2,430	741
20	1,390	2,730	1,560	3,300	3,360	5,340	7,110	4,430	2,290	3,390	1,760	702
21	1,650	2,880	1,610	3,460	1,640	2,820	7,580	4,320	2,310	3,560	1,090	943
22	1,440	1,640	2,520	3,200	1,720	2,460	7,330	4,460	3,530	3,760	1,050	1,210
23	1,560	1,440	2,460	3,390	3,140	3,690	8,730	3,070	3,530	3,690	1,350	1,390
24	1,610	2,610	2,430	2,760	3,530	3,630	8,550	2,760	3,590	3,530	1,270	1,370
25	543	2,790	838	1,900	3,390	3,330	6,950	4,140	3,260	1,930	1,270	1,160
26	890	2,820	1,160	2,940	3,460	3,390	6,330	4,250	3,360	2,120	901	6,440
27	1,440	2,670	838	2,940	3,140	3,140	7,540	4,250	2,340	3,010	1,160	838
28	1,270	1,820	1,790	3,100	1,760	1,510	6,330	4,070	2,030	3,200	343	1,140
29	1,850	1,210	2,910	3,360		1,950	5,460	4,070	3,930	3,390	375	1,180
30	1,820	1,670	2,420	3,100		3,390	5,460	2,640	3,730	3,390	116	1,180
31	1,670		2,230	1,820		3,690		2,520		3,330	406	



*Daily discharge, in second-feet, of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1897-98</b>												
1	1,160	1,160	1,860	3,130	2,850	2,680	4,050	3,780	4,990	2,550	876	1,650
2	1,070	1,990	1,870	2,140	2,820	2,700	4,180	3,780	4,520	2,500	1,540	1,800
3	702	2,270	2,170	1,450	2,930	2,750	2,850	5,510	4,580	1,770	1,650	1,640
4	558	2,480	2,270	2,590	3,200	2,910	2,570	5,160	4,400	439	1,670	1,320
5	1,140	2,700	1,670	3,060	3,060	2,750	3,890	6,670	3,580	1,870	1,580	726
6	1,120	2,660	1,220	3,100	2,040	1,700	4,070	6,850	2,390	1,870	1,670	1,450
7	1,160	1,970	2,450	3,010	1,770	1,780	4,160	6,100	4,020	1,770	974	1,530
8	1,180	1,390	2,530	3,040	2,500	3,060	4,120	4,920	4,410	1,640	1,070	1,620
9	985	1,840	2,550	1,910	2,660	3,660	4,150	4,330	4,280	1,470	1,650	1,730
10	741	2,010	2,810	1,420	2,580	3,760	2,920	4,220	4,170	1,100	1,680	1,710
11	558	1,950	2,620	3,020	2,700	3,390	2,840	5,900	4,360	1,040	1,700	1,130
12	1,340	2,010	1,950	3,030	2,680	3,190	4,290	5,620	3,220	1,540	1,660	750
13	1,510	2,230	1,120	2,970	1,720	1,870	4,270	5,490	2,520	1,760	1,840	1,290
14	1,510	1,510	2,560	3,010	1,580	1,900	4,050	5,430	3,690	1,800	1,230	1,120
15	1,900	1,120	2,460	3,140	2,330	3,220	4,190	4,020	3,700	1,840	1,230	1,190
16	1,950	1,870	2,490	1,900	2,550	3,290	4,300	3,460	3,720	1,790	1,870	1,080
17	1,050	1,950	2,830	1,600	2,490	3,110	3,090	4,550	3,610	1,070	2,270	1,180
18	722	2,010	1,920	2,970	2,470	3,140	3,030	5,090	3,690	1,250	2,460	779
19	1,900	2,490	2,260	2,860	1,500	3,440	4,370	4,760	2,380	1,700	2,810	442
20	2,060	2,460	1,590	3,140	1,530	1,940	4,650	4,650	2,080	1,640	2,750	761
21	1,900	1,420	2,480	2,910	1,590	2,230	4,780	4,740	2,450	1,620	2,020	819
22	1,900	859	2,720	2,980	2,400	3,280	5,690	3,580	2,620	1,660	866	959
23	2,990	2,090	2,700	1,970	2,410	3,200	4,890	3,160	2,600	1,690	2,570	906
24	1,120	1,230	2,790	1,770	2,500	3,290	3,170	4,340	2,620	1,090	2,580	933
25	1,270	2,530	1,920	3,020	2,400	3,540	3,460	4,590	2,590	989	2,480	676
26	2,120	2,150	823	3,050	2,500	3,360	4,620	4,470	1,620	1,560	2,470	491
27	2,490	2,190	1,690	3,140	1,490	2,570	5,090	4,740	1,600	1,640	2,570	681
28	2,370	1,310	2,960	3,220	1,910	3,040	5,140	4,610	1,860	1,620	1,940	693
29	2,610	1,120	2,870	3,020	-----	3,870	4,770	3,860	2,230	1,690	1,200	877
30	2,290	1,640	2,980	1,890	-----	3,730	4,840	2,200	2,570	1,660	1,850	693
31	1,510	-----	3,030	1,490	-----	3,740	-----	4,870	-----	1,120	1,710	-----
<b>1898-99</b>												
1	602	2,410	2,810	1,530	2,110	1,930	3,280	3,790	5,210	5,040	3,340	1,290
2	554	2,350	2,770	1,490	2,170	2,110	1,840	5,020	5,240	4,030	3,500	1,440
3	518	2,240	2,710	2,370	2,280	2,130	1,450	5,120	5,430	3,130	3,120	843
4	857	2,130	1,790	2,420	2,260	2,110	3,760	5,420	4,780	3,680	2,400	1,000
5	595	2,190	1,650	2,190	1,450	1,350	4,250	5,400	4,020	3,360	2,420	1,410
6	771	1,460	2,480	2,290	2,460	1,280	4,640	5,500	5,520	4,920	1,740	1,120
7	801	1,230	2,610	2,170	2,170	1,980	4,840	4,450	5,630	5,170	956	991
8	1,020	2,620	2,700	1,470	1,300	1,930	4,430	4,150	5,570	4,730	2,040	953
9	383	2,480	2,570	1,450	2,680	2,030	2,820	5,920	5,060	3,940	2,590	996
10	638	2,490	1,380	2,320	2,570	2,060	2,250	6,190	5,370	3,020	2,390	792
11	1,060	2,500	2,150	2,330	2,810	2,030	3,740	6,620	4,410	4,590	2,340	578
12	1,090	2,540	1,540	2,320	2,050	2,360	3,820	7,600	4,330	4,720	2,360	945
13	1,250	1,540	2,340	2,270	1,710	1,340	3,810	8,050	5,880	4,880	1,550	825
14	1,150	1,450	2,640	2,410	2,590	1,910	3,980	7,300	7,090	4,850	1,250	890
15	1,160	2,440	2,790	1,510	2,650	2,290	3,720	7,760	7,080	4,970	1,850	838
16	745	2,450	2,710	1,440	2,530	2,690	2,200	8,560	7,680	3,770	1,810	831
17	755	2,550	2,220	2,250	2,620	2,610	2,000	8,770	7,410	3,020	1,830	831
18	1,300	2,560	1,340	2,380	2,450	2,550	3,460	8,170	6,700	4,520	1,950	1,000
19	1,180	2,480	1,460	2,350	1,240	1,550	3,950	8,420	6,860	4,510	1,970	1,170
20	1,300	1,750	2,450	2,350	1,290	995	3,780	8,430	8,120	4,190	1,030	996
21	1,890	1,280	2,410	2,330	1,900	2,730	3,960	7,040	8,090	3,880	1,160	1,040
22	1,870	2,700	2,400	1,410	2,120	3,000	4,150	6,270	8,740	3,700	1,580	991
23	1,140	2,550	2,240	1,500	2,150	2,790	2,800	5,260	8,510	2,460	1,280	855
24	760	2,500	2,300	1,730	1,990	2,830	2,810	5,330	8,280	1,740	1,770	707
25	2,040	2,730	994	1,560	2,100	2,830	4,340	5,450	7,340	3,190	1,310	719
26	1,820	2,570	1,020	1,690	1,390	1,910	4,520	5,260	6,590	3,340	1,340	922
27	1,850	1,490	1,540	1,980	1,010	1,240	4,570	5,520	7,370	3,360	944	1,140
28	2,060	1,400	2,410	771	2,010	3,190	5,710	5,890	6,030	3,400	791	1,100
29	2,230	2,610	2,450	1,510	-----	3,300	4,910	5,160	5,800	3,230	1,310	1,210
30	1,490	2,520	2,320	1,350	-----	3,320	3,950	5,470	5,010	2,050	1,350	1,170
31	2,370	-----	2,240	1,800	-----	3,440	-----	5,510	-----	1,980	1,300	-----



*Daily discharge, in second-feet, of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1899-1900</b>												
1	831	2,100	2,200	841	2,400	2,430	2,490	3,640	1,480	276	2,650	1,980
2	764	2,650	2,450	2,370	2,370	2,470	1,110	3,880	1,570	511	2,110	1,640
3	1,560	2,540	1,670	2,390	2,450	2,490	3,550	4,030	1,380	320	1,950	1,420
4	1,040	2,450	952	2,410	1,640	1,710	3,850	4,010	1,100	131	1,970	1,960
5	966	1,740	2,550	2,480	1,040	1,110	3,970	4,050	1,930	820	1,640	2,140
6	1,190	1,260	2,410	2,570	2,370	1,340	4,060	2,780	2,210	352	1,290	1,890
7	1,100	2,580	2,480	1,580	2,380	2,580	3,790	1,670	2,090	345	1,960	2,050
8	928	2,620	2,570	1,210	3,020	2,640	2,900	2,460	1,470	2,940	1,910	2,110
9	774	2,520	2,530	2,410	2,420	2,610	1,750	2,280	1,300	365	2,070	1,330
10	964	2,640	1,780	2,670	2,380	2,640	3,510	2,280	990	473	1,970	1,140
11	922	2,620	1,020	2,680	1,680	1,920	3,770	2,240	1,010	353	2,040	1,970
12	1,060	1,890	2,370	2,650	1,070	1,350	4,070	2,290	1,220	333	1,500	2,070
13	1,140	1,140	2,410	2,680	2,320	2,670	4,010	1,780	1,190	394	1,060	2,190
14	982	2,190	2,350	1,740	2,650	2,970	4,080	1,750	756	382	1,830	2,070
15	778	2,380	2,400	1,240	2,710	3,040	2,560	3,740	353	538	1,910	2,180
16	398	2,350	2,340	2,530	2,730	2,960	2,240	3,990	497	979	1,890	1,160
17	969	2,350	1,780	2,420	2,660	2,940	3,940	3,800	394	1,180	2,040	1,170
18	1,040	2,260	1,260	2,640	1,940	2,070	4,350	3,880	437	1,070	2,000	1,950
19	1,180	1,770	2,580	2,530	1,310	1,350	4,090	3,790	573	907	1,430	1,900
20	1,300	613	2,380	2,660	2,860	2,710	4,140	2,660	523	1,190	1,120	2,060
21	1,330	2,300	2,390	1,720	2,840	2,830	4,070	2,100	569	1,150	2,120	2,020
22	885	2,200	2,420	1,040	2,610	2,900	2,930	3,730	585	799	2,010	2,170
23	685	2,240	2,500	2,630	2,690	2,950	1,980	3,940	264	1,170	1,880	1,430
24	1,480	2,210	1,750	2,550	2,650	3,300	3,860	3,870	262	1,850	1,970	1,110
25	1,550	2,350	105	2,460	1,430	2,260	4,090	3,890	396	2,050	1,920	2,330
26	1,400	1,870	958	2,580	1,300	1,300	4,110	3,690	258	1,980	1,440	2,890
27	1,830	905	2,130	2,420	2,410	3,160	4,060	2,540	360	1,980	1,120	2,810
28	2,030	2,330	2,190	1,510	2,620	3,640	4,230	1,380	298	1,910	1,910	3,390
29	1,490	2,160	2,410	1,220	-----	3,680	2,860	2,100	386	1,540	1,930	3,520
30	769	2,330	2,240	2,170	-----	3,560	2,060	2,150	341	1,670	2,030	2,560
31	2,080	-----	1,660	2,440	-----	3,650	-----	1,860	-----	2,410	2,020	-----
<b>1900-1</b>												
1	1,730	9,530	4,080	2,540	3,470	4,360	2,470	6,330	4,800	2,080	3,830	1,200
2	4,010	9,400	2,200	2,700	3,730	4,260	4,660	6,910	3,800	3,500	3,850	1,160
3	5,190	6,650	1,550	2,900	2,660	2,720	5,090	5,990	3,470	3,740	3,790	1,640
4	5,480	5,470	3,280	2,880	1,820	2,110	5,210	6,030	4,910	2,620	2,650	1,680
5	4,840	4,980	3,520	2,930	3,730	4,070	5,390	4,770	5,090	3,190	1,710	1,690
6	4,760	6,130	3,410	1,820	4,100	4,480	6,080	3,800	4,910	4,100	2,550	1,680
7	3,660	6,170	3,300	970	4,350	4,260	6,780	5,710	4,650	2,950	2,600	1,650
8	2,850	5,780	3,090	2,650	4,520	4,260	7,080	5,540	4,850	2,720	2,320	1,100
9	4,830	5,840	5,470	2,950	4,540	4,210	10,700	5,500	2,830	4,190	2,410	893
10	5,160	6,360	1,570	3,020	2,800	2,940	11,000	5,570	2,650	4,560	2,340	1,450
11	5,120	5,130	3,230	2,840	2,080	1,790	11,600	5,430	3,870	4,080	1,500	984
12	4,810	4,900	3,060	2,710	4,160	2,210	12,000	4,180	3,920	4,150	1,610	1,200
13	4,670	5,940	3,260	1,850	4,180	4,000	11,600	3,750	4,440	4,040	2,580	1,050
14	3,560	5,670	3,270	1,090	4,430	4,120	11,100	5,120	4,270	3,130	2,510	1,190
15	3,030	5,340	2,150	2,620	4,260	4,060	10,700	5,560	3,740	2,810	2,500	706
16	4,460	4,090	1,560	2,640	4,290	4,170	11,900	5,430	2,590	4,000	2,640	1,150
17	4,880	4,350	1,030	1,360	3,070	2,820	11,900	5,370	1,740	4,090	2,570	1,010
18	5,290	3,270	2,810	2,440	2,230	1,740	11,600	5,110	3,470	4,000	1,620	1,040
19	5,250	2,690	2,960	2,680	4,310	3,970	11,500	4,100	4,090	3,900	1,400	1,000
20	5,700	4,910	2,980	1,780	4,470	4,030	11,300	3,720	4,150	4,070	1,740	1,090
21	4,600	5,170	3,040	948	4,380	4,550	9,930	5,010	3,950	2,910	1,610	1,060
22	4,230	5,490	3,110	2,270	4,500	4,140	9,300	5,260	3,960	2,230	1,760	675
23	6,510	5,440	2,730	2,600	4,390	4,110	11,100	5,310	3,140	3,620	1,890	1,020
24	6,270	5,960	639	2,600	3,090	3,430	9,830	4,690	2,500	3,900	1,800	1,280
25	7,430	4,500	2,000	2,610	2,490	4,620	9,470	4,940	3,340	3,940	1,540	1,450
26	7,570	4,400	1,470	2,530	4,400	6,430	9,240	3,880	3,510	3,830	1,130	1,510
27	7,620	5,640	2,760	1,420	3,630	4,990	8,390	3,760	3,470	3,790	1,850	1,450
28	6,400	5,820	2,830	886	4,580	4,080	7,400	4,880	3,550	2,670	1,890	1,440
29	6,340	5,560	2,800	2,060	-----	4,370	7,240	3,450	3,510	2,140	1,930	1,070
30	7,850	5,480	1,980	2,400	-----	4,240	7,270	5,010	2,350	3,720	1,620	1,120
31	8,040	-----	698	2,410	-----	3,470	-----	4,920	-----	3,920	1,720	-----

*Daily discharge, in second-feet, of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1901-2												
1	1,160	3,660	2,590	2,600	2,590	3,370	2,760	2,390	9,570	5,700	3,730	910
2	1,780	3,800	1,680	3,100	917	1,190	2,960	2,470	10,500	5,600	3,280	1,110
3	1,860	2,670	2,650	2,940	1,490	1,630	3,010	2,420	11,900	5,450	1,540	1,850
4	1,750	1,790	3,520	3,060	2,450	2,500	3,110	1,470	11,500	3,370	2,530	1,690
5	1,710	3,700	3,500	1,230	2,510	2,630	3,250	2,080	11,100	3,450	3,690	1,720
6	1,230	3,730	3,460	1,680	2,610	2,760	1,600	2,850	10,400	3,010	3,910	1,870
7	991	3,710	3,650	2,780	2,610	2,830	1,710	3,540	9,890	3,350	4,090	704
8	2,070	3,730	2,330	2,860	2,410	2,750	3,130	4,080	7,310	5,530	4,000	1,240
9	2,140	3,580	1,600	3,140	696	1,140	3,100	3,130	7,890	5,530	3,890	1,710
10	2,260	2,590	3,260	2,990	1,430	1,580	3,150	4,020	8,340	5,330	1,530	1,760
11	2,470	1,650	3,590	2,910	2,390	3,870	3,100	2,080	8,210	5,280	2,360	1,650
12	2,310	3,450	3,670	765	2,590	3,270	3,120	2,740	6,320	5,140	3,670	1,550
13	1,740	3,770	3,670	1,280	2,590	3,610	1,460	4,640	6,430	4,640	4,050	1,670
14	1,260	3,770	3,140	2,460	2,480	3,690	1,760	4,920	4,000	3,260	4,030	821
15	3,800	3,770	2,520	2,340	2,450	3,570	2,110	5,060	5,840	5,130	3,850	1,080
16	3,360	3,860	1,560	2,460	1,060	1,600	2,370	4,920	4,170	5,140	3,960	965
17	3,250	2,700	2,890	2,510	1,420	1,930	2,450	4,620	6,160	5,260	1,500	1,200
18	3,370	1,660	3,350	2,510	2,490	3,710	2,250	2,480	6,280	5,280	2,100	1,210
19	3,140	3,640	3,320	1,140	2,410	3,840	2,380	2,690	5,440	5,160	2,540	1,320
20	2,100	3,870	2,940	1,100	2,590	3,840	1,090	4,680	5,990	2,900	2,730	1,170
21	1,570	3,730	3,310	2,420	2,370	3,990	2,070	5,080	6,090	3,150	2,910	652
22	3,540	3,830	2,650	2,450	2,490	3,970	2,270	4,860	3,850	4,250	2,930	887
23	3,730	3,720	3,230	2,450	1,080	1,850	2,070	4,730	4,220	4,210	2,870	1,470
24	3,620	2,480	2,950	2,420	1,380	1,720	2,310	4,950	5,870	4,330	1,310	1,450
25	3,660	1,640	2,090	2,430	2,210	3,780	1,990	5,720	6,090	4,570	1,770	1,170
26	3,750	3,210	1,970	927	2,420	3,930	2,250	7,420	6,000	4,290	2,760	1,370
27	2,720	3,590	2,860	1,390	2,370	4,020	947	9,940	3,710	1,650	2,890	1,340
28	1,650	3,480	3,090	2,420	3,490	3,840	1,570	11,200	5,740	2,260	2,880	515
29	3,760	3,430	2,180	2,560	-----	3,930	2,380	12,300	3,490	3,440	2,790	851
30	3,870	3,460	1,460	2,430	-----	1,770	2,310	9,870	3,850	3,730	2,160	1,220
31	3,790	-----	2,800	2,370	-----	1,740	-----	9,600	-----	4,020	1,530	-----
1902-3												
1	1,190	2,960	987	2,590	1,680	1,830	6,190	6,010	5,680	5,570	4,390	4,190
2	1,500	1,000	2,930	2,630	2,100	1,780	6,600	6,310	6,790	5,420	2,830	4,280
3	1,600	1,310	2,900	2,590	3,010	3,190	6,810	3,140	6,070	5,280	3,010	4,300
4	1,500	2,720	3,060	1,210	3,050	3,200	7,650	4,280	5,430	3,510	3,840	4,330
5	435	2,930	2,910	1,480	3,100	3,450	9,300	6,120	5,390	2,050	4,300	4,320
6	736	2,850	3,020	2,660	3,390	3,320	7,730	5,990	5,990	2,720	3,760	1,830
7	1,580	2,970	892	2,820	3,390	3,670	7,660	6,240	3,750	3,940	3,710	1,940
8	1,750	3,010	1,660	2,770	1,830	2,300	6,380	6,080	4,090	3,750	3,790	3,990
9	1,610	914	2,800	2,830	1,840	2,070	6,340	5,910	5,810	4,090	2,210	4,710
10	1,610	1,270	2,840	2,410	3,390	3,560	6,780	3,630	5,970	3,800	2,880	4,810
11	1,530	2,980	3,100	1,560	3,580	3,980	8,280	3,960	5,560	4,010	3,670	5,080
12	651	3,030	3,050	1,520	3,590	4,200	7,810	5,700	6,010	1,860	4,020	5,090
13	1,040	2,950	3,000	2,950	3,650	4,050	7,400	5,470	5,740	3,370	4,130	2,730
14	2,120	2,890	1,160	3,190	3,500	3,960	8,390	5,770	3,500	4,990	4,030	2,730
15	2,390	2,890	1,340	3,610	2,010	2,550	8,520	5,470	3,820	4,680	4,130	5,200
16	2,250	756	2,650	3,650	2,040	2,210	6,240	5,840	5,630	5,160	1,440	5,310
17	2,220	1,310	2,660	3,490	3,370	4,180	6,220	3,420	5,670	5,150	2,000	5,290
18	2,720	2,840	2,620	1,290	3,270	4,650	6,340	3,870	5,720	5,140	4,060	5,390
19	715	2,830	2,610	1,950	3,280	8,440	4,190	6,090	5,350	2,700	4,100	4,440
20	1,450	2,960	2,690	3,500	3,430	6,450	4,520	6,130	5,230	3,170	4,050	3,750
21	2,120	2,950	1,260	3,480	3,470	3,890	6,430	6,130	3,330	5,050	4,020	2,490
22	2,650	2,910	1,610	3,660	2,380	1,810	6,250	5,930	3,650	4,950	1,870	5,110
23	2,530	958	2,600	3,440	1,750	2,340	6,660	6,160	5,430	5,100	3,870	5,370
24	2,680	1,350	2,640	3,540	3,220	5,090	5,780	3,040	5,480	5,180	1,970	5,480
25	2,680	2,980	1,490	1,290	3,110	5,050	4,800	3,820	5,410	4,920	3,790	5,420
26	1,090	3,180	1,580	1,940	3,070	4,840	3,890	6,220	5,330	2,540	4,290	5,520
27	1,290	2,860	2,650	3,290	3,460	4,840	4,380	7,380	5,200	2,190	4,450	3,480
28	2,790	2,960	1,140	3,440	3,630	4,970	6,210	6,420	2,660	4,440	4,240	2,990
29	2,960	3,120	1,570	3,530	-----	3,980	6,010	6,140	3,090	4,560	4,100	5,010
30	3,020	1,140	2,470	3,510	-----	3,340	5,290	6,660	5,050	4,250	1,780	5,060
31	2,880	-----	2,590	3,760	-----	5,450	-----	5,200	-----	4,320	2,260	-----

*Daily discharge, in second-feet, of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1903-4</b>												
1-----	5,310	2,660	2,820	3,500	2,370	3,410	4,130	6,740	9,540	3,430	2,750	2,630
2-----	5,290	2,100	3,380	3,600	3,590	3,460	3,880	7,320	9,410	3,280	3,490	2,400
3-----	2,800	5,160	1,920	1,900	3,550	3,550	1,610	5,790	9,280	2,680	3,620	2,230
4-----	2,620	4,770	3,670	2,240	3,540	3,520	4,090	5,480	9,790	2,240	3,640	1,330
5-----	5,320	4,770	3,630	3,190	3,310	3,510	4,320	5,800	8,250	2,800	3,550	1,620
6-----	4,990	4,960	1,650	3,510	3,510	1,720	4,510	5,780	8,400	3,580	3,680	1,860
7-----	5,830	4,930	1,970	3,870	1,660	1,770	4,410	5,810	8,800	3,080	2,570	1,950
8-----	5,600	1,980	3,510	3,860	2,070	3,390	4,880	4,460	8,250	3,580	2,830	2,000
9-----	5,340	2,100	3,620	3,750	3,530	3,150	5,330	5,420	6,970	3,480	3,830	2,010
10-----	5,340	4,230	3,700	1,760	3,590	3,540	3,060	7,550	8,180	2,600	3,750	2,100
11-----	2,850	4,960	3,590	2,030	3,640	3,670	3,890	10,100	8,480	2,770	3,990	1,310
12-----	2,880	5,080	3,640	3,720	3,710	3,460	5,740	11,000	8,140	3,460	3,920	1,550
13-----	5,340	4,730	1,620	3,630	3,670	1,830	6,110	11,700	8,030	3,450	4,040	1,910
14-----	5,510	4,850	1,830	3,470	1,560	1,990	7,170	11,200	8,530	3,660	2,700	2,100
15-----	5,480	2,230	2,960	3,570	1,900	3,290	7,490	9,810	8,130	3,480	3,090	2,160
16-----	5,510	1,860	3,520	3,590	3,500	3,640	8,020	10,200	8,510	3,430	3,230	2,120
17-----	5,430	4,220	3,690	1,480	3,400	3,420	7,650	11,000	8,280	2,470	3,100	2,090
18-----	2,760	4,470	3,700	2,020	3,670	3,480	8,230	11,000	7,360	2,830	3,220	1,570
19-----	2,960	4,890	3,680	3,170	3,630	3,130	9,640	10,600	6,000	3,460	3,200	1,360
20-----	5,600	4,500	2,000	3,350	3,710	1,740	9,430	10,200	5,780	3,340	3,240	1,760
21-----	5,130	4,280	1,920	3,330	1,690	2,040	9,400	9,570	6,170	3,210	2,210	1,820
22-----	5,370	1,730	3,330	3,410	2,240	3,910	9,190	8,570	5,240	3,420	1,720	988
23-----	5,290	2,310	3,420	3,390	3,760	4,330	9,020	9,100	3,760	3,360	2,440	1,990
24-----	5,280	4,420	1,910	1,190	3,960	5,180	7,440	9,850	3,620	2,350	2,530	1,890
25-----	2,590	4,480	3,350	2,100	4,080	7,430	7,130	10,200	2,340	2,580	2,400	1,280
26-----	2,670	3,870	1,580	3,670	4,130	5,430	8,820	10,800	2,340	2,910	1,550	1,380
27-----	5,130	3,310	1,320	3,730	3,810	2,350	9,070	9,390	2,590	3,150	2,500	1,980
28-----	5,300	3,380	2,160	3,870	1,840	2,500	9,030	9,530	3,470	3,500	2,600	1,920
29-----	5,260	1,980	3,130	3,750	2,090	3,360	9,020	8,720	3,540	3,580	2,110	2,270
30-----	5,220	1,870	3,620	3,850	-----	3,750	8,870	8,470	3,490	4,110	2,390	2,050
31-----	5,260	-----	3,590	1,880	-----	4,380	-----	8,990	-----	2,660	2,640	-----
<b>1904-5</b>												
1-----	2,120	4,250	3,870	3,010	4,670	4,700	4,460	4,370	6,630	12,000	4,880	4,700
2-----	1,350	4,770	4,400	2,260	4,330	4,440	3,190	5,850	7,340	10,600	4,960	5,070
3-----	1,320	4,790	4,350	3,350	4,770	4,290	3,080	5,880	6,940	10,400	4,960	3,390
4-----	2,500	4,750	3,010	3,780	5,160	4,260	5,060	5,910	7,230	10,600	4,940	3,050
5-----	3,380	4,830	2,690	4,450	3,770	2,860	5,590	5,950	8,280	10,700	5,170	3,790
6-----	3,480	4,420	4,080	4,270	2,690	2,610	6,000	6,130	15,400	10,600	3,410	4,100
7-----	3,680	2,610	4,380	4,290	4,790	3,980	5,800	4,490	14,200	9,410	3,390	4,490
8-----	3,630	4,350	4,410	3,020	4,970	4,000	7,050	4,230	14,200	9,210	4,380	4,400
9-----	2,410	4,740	4,270	2,970	5,060	4,010	8,800	5,550	15,100	7,860	4,850	4,430
10-----	3,560	4,790	4,280	4,240	5,010	4,420	9,420	6,390	14,300	7,420	4,900	3,970
11-----	3,790	4,440	2,880	4,420	5,170	4,140	11,400	6,160	14,100	8,800	4,240	3,110
12-----	3,350	4,480	2,450	4,590	4,060	2,700	12,400	6,040	14,100	9,120	4,850	4,370
13-----	3,590	3,190	3,070	4,560	2,890	2,260	12,700	6,070	14,600	9,070	3,580	4,140
14-----	3,610	2,060	3,640	4,100	4,830	4,060	12,200	4,640	14,600	8,770	3,380	4,330
15-----	3,720	3,960	3,700	3,110	5,200	3,890	12,000	4,400	14,200	8,520	4,850	4,450
16-----	2,350	4,120	3,760	2,500	4,790	3,690	11,100	6,200	14,400	7,170	4,940	4,240
17-----	1,890	4,120	3,720	3,920	4,720	3,880	11,100	6,160	14,600	6,700	4,940	2,860
18-----	3,450	4,480	2,870	4,240	4,640	4,310	11,600	6,270	14,000	8,860	5,030	2,830
19-----	3,380	4,500	2,300	4,600	3,370	2,530	12,300	5,890	14,300	7,870	4,790	4,240
20-----	4,490	2,540	3,710	4,650	2,550	2,100	11,900	6,120	14,300	6,600	3,050	4,400
21-----	4,470	2,290	4,440	4,620	4,840	4,230	10,300	4,800	14,200	6,580	3,530	4,450
22-----	4,250	4,100	4,350	3,030	4,910	4,490	10,600	4,390	13,400	5,800	4,790	4,290
23-----	3,020	4,420	4,110	2,960	4,850	5,800	9,410	5,800	13,700	4,580	4,890	4,340
24-----	2,920	3,260	4,080	4,740	4,780	5,760	9,030	6,050	13,500	3,450	5,040	2,970
25-----	4,340	3,380	2,250	4,830	4,360	5,620	9,210	5,880	12,500	5,800	5,020	2,240
26-----	4,690	4,290	1,810	4,580	3,060	4,510	7,660	5,880	11,900	6,200	4,800	4,030
27-----	4,540	2,750	3,160	4,970	2,570	3,550	5,820	5,840	12,400	5,500	3,590	4,420
28-----	4,570	1,670	3,700	4,650	4,190	4,350	6,160	4,570	12,300	5,550	3,520	4,330
29-----	6,430	3,130	3,680	3,410	-----	4,270	6,140	5,130	12,500	5,190	4,150	5,950
30-----	3,690	6,940	4,590	3,140	-----	4,400	5,030	6,600	12,300	3,560	4,090	4,130
31-----	3,160	-----	4,310	4,580	-----	4,190	-----	6,310	-----	3,480	4,270	-----

*Daily discharge, in second-feet, of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.—(Continued):*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1905-6</b>												
1	2,070	3,860	3,630	2,550	4,220	4,350	9,150	14,300	3,800	3,310	3,430	2,830
2	2,130	4,240	3,640	3,240	4,160	4,370	9,670	13,900	4,010	3,630	3,330	1,730
3	3,550	4,290	2,540	4,270	4,060	4,450	10,600	13,900	2,930	4,680	3,440	1,970
4	3,580	4,240	1,780	4,290	3,020	2,970	11,000	13,400	3,040	3,320	3,370	2,670
5	3,370	2,680	3,640	4,300	2,490	2,850	11,600	13,000	4,630	3,780	2,060	2,550
6	3,550	2,440	3,960	4,640	4,290	4,330	12,000	11,600	4,850	4,600	2,540	2,700
7	3,930	3,970	4,120	1,750	4,290	4,310	12,200	11,400	4,920	4,880	2,150	2,830
8	3,060	4,180	4,070	2,760	4,450	4,090	12,100	12,300	6,040	3,410	2,890	2,640
9	2,500	4,460	4,090	4,390	4,500	4,450	14,400	12,100	4,670	3,690	3,120	1,580
10	3,900	4,240	2,660	4,280	4,250	4,250	13,700	11,800	2,940	5,280	3,070	1,900
11	3,970	3,600	2,120	4,290	2,670	3,030	14,000	11,900	3,030	5,090	3,030	2,600
12	4,020	2,290	3,830	4,230	2,600	2,530	13,900	10,100	4,310	5,020	1,520	2,700
13	3,880	2,150	4,200	4,250	4,100	4,290	13,600	8,810	4,440	5,060	2,520	2,740
14	3,760	3,910	4,360	2,460	4,100	4,450	14,600	8,360	4,430	4,650	2,780	2,830
15	2,770	4,120	4,280	2,290	4,390	4,350	15,100	9,220	4,480	3,320	2,970	2,830
16	2,230	4,090	4,290	4,230	4,350	4,570	15,900	7,880	4,100	3,650	2,990	1,470
17	3,960	4,120	2,470	4,160	4,300	4,600	15,600	7,420	2,840	4,730	3,090	1,420
18	4,050	4,060	2,370	4,500	2,660	3,060	15,400	6,830	3,320	4,740	3,090	2,890
19	4,090	2,280	3,860	4,230	2,550	2,750	15,500	5,910	4,040	5,070	1,780	2,790
20	3,940	2,180	4,060	4,400	4,740	4,120	15,600	4,080	4,960	4,910	2,020	2,870
21	3,960	3,830	4,140	3,070	4,670	4,580	15,600	4,060	5,320	4,950	3,120	2,790
22	2,090	3,980	4,070	2,450	4,630	5,500	13,400	5,180	5,330	2,760	3,030	2,840
23	2,190	4,040	3,920	3,510	4,790	4,320	15,100	5,210	5,020	3,190	2,930	1,380
24	3,920	4,350	2,930	4,630	4,980	4,400	15,700	5,280	3,360	4,500	2,920	1,630
25	4,020	4,090	1,690	4,640	3,020	3,170	15,300	5,320	3,510	4,490	3,180	2,570
26	4,070	2,390	2,000	4,350	2,690	4,300	14,900	5,230	4,660	4,520	1,780	2,910
27	4,090	2,160	4,060	4,250	4,350	3,810	14,700	3,290	4,810	4,490	1,520	2,390
28	4,160	4,020	4,420	2,850	4,380	7,340	14,600	3,440	5,050	4,320	2,450	2,800
29	2,710	4,000	3,840	2,470	-----	9,050	13,600	5,030	5,030	2,610	2,640	2,750
30	2,260	3,820	3,820	4,240	-----	9,900	13,800	4,320	5,060	2,810	2,540	1,380
31	4,190	-----	2,440	4,370	-----	9,860	-----	3,980	-----	2,810	2,640	-----
<b>1906-7</b>												
1	1,460	3,210	4,740	5,180	5,960	4,140	5,060	10,400	6,860	3,720	5,040	2,590
2	2,610	3,220	3,470	5,110	7,380	4,040	8,190	10,200	5,610	4,480	4,730	1,780
3	2,530	3,220	2,950	6,030	5,400	2,670	7,950	10,300	5,430	4,480	4,960	2,440
4	2,720	1,970	4,740	6,020	5,730	1,840	8,070	10,500	7,440	2,830	3,890	2,800
5	3,030	1,900	5,320	5,290	7,380	3,840	9,450	9,540	7,690	2,690	3,390	3,040
6	2,740	3,700	5,490	4,560	7,290	3,780	10,100	8,850	7,650	4,210	4,760	2,740
7	2,130	3,560	5,560	3,780	7,250	3,580	8,300	9,170	7,390	3,250	4,360	2,390
8	1,500	3,660	5,720	6,220	7,200	3,760	8,980	9,070	7,280	2,610	4,550	1,770
9	2,880	3,800	4,690	6,260	6,640	3,880	11,100	8,430	5,630	4,700	4,240	1,760
10	2,780	3,730	3,810	7,000	5,730	2,720	11,300	7,610	5,860	5,090	4,040	2,330
11	2,980	2,160	5,080	6,500	5,350	2,520	12,200	7,870	6,870	5,290	2,970	2,330
12	2,320	1,890	5,330	5,210	7,150	4,080	11,600	6,530	6,640	5,600	1,910	2,350
13	2,430	3,460	5,510	4,120	7,070	3,840	10,500	5,880	6,440	5,980	3,400	2,460
14	1,540	3,650	5,820	3,420	7,690	3,780	7,100	7,120	6,090	4,030	3,180	2,760
15	1,830	3,630	6,590	5,560	7,090	3,240	8,690	6,750	5,590	3,630	3,190	1,580
16	2,550	3,770	5,240	5,630	6,580	3,890	11,600	7,070	3,430	5,050	3,580	1,560
17	2,260	3,850	4,240	5,440	4,150	3,020	12,000	6,750	3,310	5,180	4,180	2,780
18	2,290	2,160	6,330	5,290	3,570	2,690	11,600	6,780	5,660	4,950	2,320	3,030
19	2,320	1,540	5,990	6,200	5,130	4,200	11,600	4,890	5,790	4,520	2,040	3,140
20	1,870	3,490	5,720	4,940	4,560	4,040	10,700	4,380	5,630	4,670	3,520	3,260
21	811	3,730	5,620	6,370	4,660	4,440	9,540	7,650	5,430	3,060	3,890	3,690
22	831	4,030	5,660	5,800	5,090	4,680	11,600	7,610	5,250	4,000	4,390	2,360
23	2,560	4,140	4,890	5,590	4,710	4,400	11,000	7,020	3,770	6,960	4,350	1,620
24	2,610	3,970	4,200	5,230	4,030	3,010	10,500	6,780	3,550	6,830	4,190	3,190
25	2,850	2,850	4,470	5,260	1,520	3,360	11,200	7,090	5,410	6,450	2,810	3,530
26	2,850	4,290	4,590	5,590	3,670	4,720	11,300	5,720	5,590	6,180	2,300	3,330
27	3,100	5,160	5,750	3,230	3,710	5,250	11,900	5,320	5,250	6,130	2,970	3,160
28	1,620	5,070	6,030	2,700	4,280	5,250	9,840	6,900	5,630	4,570	3,420	3,230
29	1,030	4,880	5,510	5,100	-----	6,250	10,200	7,010	5,410	4,010	3,590	1,800
30	2,690	5,290	4,790	5,230	-----	6,180	11,600	7,380	4,120	5,330	3,710	1,740
31	2,690	-----	4,610	5,320	-----	4,260	-----	7,360	-----	5,060	3,550	-----



*Daily discharge, in second-feet, of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1907-8</b>												
1-----	3,300	2,250	1,050	2,590	3,460	1,880	9,150	8,260	8,730	3,920	3,230	1,160
2-----	3,470	2,190	992	2,590	1,690	1,350	9,430	7,980	8,480	3,530	2,170	1,070
3-----	3,330	769	2,700	2,610	1,020	2,630	9,540	7,100	7,860	2,840	1,910	901
4-----	3,390	1,050	2,500	2,500	2,590	2,760	9,850	7,440	8,010	1,940	3,260	1,090
5-----	3,470	2,100	3,030	1,110	3,300	3,340	8,680	8,410	7,550	1,580	3,300	1,160
6-----	1,570	2,290	3,050	1,340	3,100	3,640	8,510	8,450	7,310	1,960	3,270	734
7-----	1,400	2,400	3,190	3,070	3,200	3,350	7,420	7,540	6,030	3,270	3,250	591
8-----	3,490	2,300	1,290	3,140	2,990	1,450	9,570	9,560	6,580	3,310	3,250	815
9-----	3,770	2,260	1,020	3,170	1,580	2,310	10,300	10,700	4,300	3,220	2,270	943
10-----	3,800	1,010	2,670	3,420	2,200	3,490	10,600	11,000	4,440	3,580	1,010	1,040
11-----	3,250	791	2,390	3,420	2,880	4,280	9,610	10,200	4,440	3,730	959	875
12-----	3,140	2,520	2,500	2,140	3,270	4,860	8,850	8,580	4,830	1,350	917	741
13-----	1,500	2,070	2,420	1,270	3,330	4,580	8,670	8,510	4,750	2,600	990	178
14-----	2,030	1,970	2,840	1,950	3,050	4,220	9,330	9,100	2,910	2,820	985	629
15-----	3,400	1,840	1,530	2,530	3,300	8,230	8,230	10,800	3,080	2,910	883	613
16-----	3,660	2,100	1,580	2,260	1,570	2,090	7,660	9,760	4,020	2,850	581	741
17-----	3,490	1,000	2,680	2,380	1,800	3,690	7,610	10,100	4,030	3,070	527	556
18-----	3,660	766	2,980	2,570	3,210	4,240	7,310	11,600	3,940	3,070	1,290	556
19-----	3,660	1,850	3,100	749	3,170	4,510	6,870	12,300	4,040	2,040	1,760	671
20-----	1,890	1,870	3,580	1,520	3,490	4,710	6,060	12,600	3,850	2,390	1,640	238
21-----	1,530	2,030	3,680	3,140	3,330	6,990	6,360	12,900	2,350	2,910	1,590	416
22-----	3,490	2,570	2,050	3,600	3,230	5,470	6,020	12,100	3,040	3,170	1,370	509
23-----	3,390	2,760	2,050	3,210	1,880	5,420	5,860	10,900	4,010	3,230	196	472
24-----	3,420	992	3,660	3,940	1,270	6,890	5,690	9,950	4,100	3,330	704	512
25-----	3,630	1,420	2,290	3,730	2,980	7,170	5,660	10,600	4,460	3,330	1,640	613
26-----	3,630	2,860	1,040	1,570	3,300	7,300	5,300	10,600	4,370	1,860	1,640	541
27-----	1,950	3,110	2,100	1,410	2,730	7,590	8,720	10,900	4,100	1,870	1,390	1,770
28-----	1,250	2,590	2,240	2,570	2,960	7,630	7,540	10,200	2,620	3,030	1,510	509
29-----	1,850	2,090	828	2,540	3,300	6,960	8,270	10,400	2,970	3,520	1,610	422
30-----	2,260	2,680	1,200	3,530	-----	7,250	8,330	9,780	3,810	3,390	548	422
31-----	2,210	-----	2,680	3,520	-----	8,450	-----	8,060	-----	3,300	546	-----
<b>1908-9</b>												
1-----	312	282	2,750	1,760	1,330	1,640	3,640	9,130	7,150	5,620	1,380	1,900
2-----	371	257	6,220	1,840	2,950	3,250	3,730	8,560	6,010	5,650	781	1,630
3-----	662	949	2,890	2,260	3,230	3,350	4,000	8,490	5,570	5,540	1,400	1,820
4-----	562	859	2,550	1,410	3,340	3,470	2,260	10,800	5,650	3,260	792	1,850
5-----	243	1,110	2,570	2,630	3,190	3,450	1,590	11,100	5,800	2,220	896	1,030
6-----	623	1,170	1,250	2,520	3,140	3,460	3,260	11,700	5,400	3,210	804	570
7-----	683	1,290	1,390	2,620	1,650	1,760	3,800	12,900	5,650	4,250	834	1,720
8-----	799	527	2,540	3,520	1,340	1,780	3,950	13,000	7,820	4,750	437	1,900
9-----	556	420	2,550	3,350	2,220	3,310	3,900	11,000	8,090	4,680	563	1,840
10-----	543	1,260	2,550	1,630	3,560	3,350	3,950	10,900	7,660	4,540	906	1,720
11-----	241	1,330	2,620	1,110	3,940	3,440	2,020	11,700	7,100	3,350	880	1,900
12-----	194	1,880	2,710	2,240	3,550	3,390	2,320	11,600	7,110	3,030	943	1,130
13-----	410	1,230	1,470	3,160	3,350	3,350	3,790	11,100	5,620	4,330	838	982
14-----	521	1,490	985	3,730	2,100	1,740	4,370	10,600	5,640	4,820	880	1,650
15-----	570	674	2,480	3,530	1,360	1,520	4,300	11,400	6,980	4,820	529	1,720
16-----	591	419	2,720	3,330	3,240	3,220	4,090	9,330	7,270	4,650	614	1,720
17-----	867	1,120	2,780	1,970	3,350	3,320	3,940	9,550	7,080	4,670	880	1,690
18-----	219	1,590	2,780	1,560	3,260	3,300	2,530	10,800	7,880	3,330	906	1,760
19-----	245	1,370	2,610	3,070	3,340	3,340	2,350	10,900	8,090	2,260	880	699
20-----	596	1,700	1,280	3,410	3,160	3,330	3,820	10,900	6,090	4,000	794	608
21-----	538	1,850	1,100	3,410	1,310	1,540	4,370	10,600	5,630	4,110	880	1,520
22-----	555	793	2,540	3,380	1,580	1,610	5,000	10,500	7,420	4,030	506	1,820
23-----	717	817	2,780	3,420	3,000	3,340	4,890	8,950	6,300	4,070	563	1,550
24-----	556	1,920	2,770	1,760	3,190	3,970	5,150	8,730	5,790	3,900	880	1,660
25-----	283	2,170	766	1,070	3,140	3,930	4,820	9,080	5,740	2,330	943	1,720
26-----	243	2,090	970	2,950	3,140	3,740	5,230	8,190	5,880	740	943	1,190
27-----	556	2,160	681	3,370	2,980	3,690	5,930	8,280	4,420	2,400	1,100	1,010
28-----	556	2,400	1,280	3,350	1,200	1,780	5,880	7,960	3,340	2,320	1,570	1,430
29-----	468	1,100	2,430	3,340	-----	1,490	6,160	7,430	5,500	2,470	789	1,720
30-----	509	559	2,700	2,690	-----	3,610	8,150	4,070	5,720	2,190	671	1,720
31-----	509	-----	2,480	2,580	-----	3,520	-----	6,150	-----	2,160	1,590	-----

*Daily discharge, in second-feet, of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1909-10</b>												
1	1,730	478	3,300	3,560	3,580	3,420	3,170	2,720	4,390	2,380	103	222
2	1,850	794	3,230	2,260	3,690	2,490	3,520	2,420	4,370	2,160	446	728
3	928	854	3,300	1,430	3,820	3,510	2,300	4,150	4,070	931	539	985
4	1,220	870	3,230	3,210	3,890	3,510	1,750	4,570	4,070	162	463	448
5	1,420	1,080	1,890	3,800	3,670	3,670	3,440	4,680	2,590	745	386	2,180
6	1,750	1,280	1,880	3,690	2,140	2,770	3,730	4,970	2,040	1,270	402	1,350
7	1,690	396	3,200	3,890	1,540	2,980	3,610	4,970	3,740	1,610	177	1,000
8	1,700	586	3,440	3,800	3,340	3,140	3,710	3,200	3,580	1,100	147	1,090
9	1,710	870	3,700	2,430	3,500	3,220	3,470	3,360	3,040	403	421	1,160
10	1,160	1,160	3,840	1,610	3,560	3,300	2,210	5,160	3,390	219	382	1,340
11	1,530	1,370	3,560	3,270	3,730	3,300	1,770	5,020	2,730	279	487	919
12	1,800	1,310	2,490	3,560	3,560	3,320	3,160	5,140	2,190	871	387	685
13	1,700	1,280	1,610	3,730	2,400	2,980	3,560	4,930	1,920	501	458	1,260
14	1,480	863	3,460	3,840	1,670	3,230	3,460	4,970	3,460	552	243	1,500
15	1,320	944	3,630	3,730	3,170	3,750	3,630	3,170	3,560	442	351	1,640
16	1,140	1,460	3,460	2,380	3,220	3,300	3,580	3,170	3,320	297	337	1,800
17	451	1,970	3,560	1,660	3,510	3,320	2,210	5,100	3,440	222	76	2,420
18	631	2,080	3,460	3,430	3,390	3,480	1,790	4,750	3,250	0	0	1,320
19	937	2,160	2,210	3,920	3,260	3,460	3,140	4,990	1,720	556	306	572
20	1,150	2,190	1,300	3,820	2,460	1,980	3,390	4,960	1,900	468	245	1,800
21	1,380	1,380	2,790	3,880	2,280	1,910	3,420	4,600	2,730	367	249	1,610
22	1,350	1,310	3,440	3,730	3,390	2,980	3,530	2,850	2,940	458	88	1,790
23	1,140	1,990	3,580	2,450	3,140	3,390	3,740	2,860	2,940	553	445	1,940
24	558	2,520	3,560	1,810	3,390	3,530	2,160	4,680	2,870	259	245	2,830
25	866	2,740	2,000	3,430	3,390	3,560	1,980	4,720	2,610	391	451	1,250
26	1,010	2,470	719	3,730	3,670	3,520	4,620	4,720	899	275	348	1,100
27	896	2,560	1,520	3,730	2,700	1,750	5,280	4,510	1,000	478	189	2,160
28	880	1,610	3,070	3,730	2,030	2,390	4,570	4,550	2,480	427	155	1,950
29	838	1,470	3,390	3,730	-----	3,390	4,250	2,830	2,580	570	100	2,260
30	805	2,830	3,560	2,330	-----	3,560	4,070	2,050	2,620	552	306	2,110
31	664	-----	3,560	1,540	-----	3,610	-----	3,690	-----	191	390	-----
<b>1910-11</b>												
1	2,300	1,970	3,420	1,920	3,270	4,150	3,840	1,890	3,750	4,200	0	534
2	1,080	1,650	3,120	1,810	3,280	3,500	2,340	3,550	3,860	2,460	0	578
3	1,140	1,630	2,960	3,070	3,170	3,390	2,170	3,760	4,070	1,480	0	457
4	2,010	1,640	1,610	3,390	2,750	3,490	3,680	3,480	5,150	0	0	146
5	1,850	1,890	1,620	3,460	1,100	2,200	4,360	2,950	5,570	2,040	0	720
6	1,720	517	2,910	3,070	1,290	1,350	4,270	2,670	8,600	3,460	0	451
7	1,900	264	2,980	3,730	2,790	3,510	4,170	1,430	8,820	3,510	0	741
8	2,250	1,720	3,070	2,090	3,230	3,740	4,170	1,810	8,790	3,590	0	693
9	1,260	1,580	3,020	1,580	3,070	4,040	2,700	2,710	8,710	2,330	40	741
10	896	1,760	3,120	3,120	2,980	4,240	2,430	3,200	8,390	1,600	0	556
11	2,130	1,760	1,690	3,490	2,530	4,070	3,650	3,320	7,080	2,730	80	247
12	1,930	1,790	1,710	3,460	1,520	2,120	4,050	3,390	6,740	2,450	123	969
13	2,170	913	3,020	3,460	1,600	1,710	4,350	3,420	6,370	2,080	229	816
14	2,170	406	3,070	3,490	4,310	3,420	4,390	1,760	6,570	2,310	103	1,180
15	2,290	1,640	2,880	1,980	3,750	3,530	4,180	2,030	6,450	2,350	858	818
16	1,260	1,700	2,860	1,790	3,500	3,200	2,280	3,380	6,260	1,630	813	1,160
17	939	1,920	3,140	3,400	4,210	3,820	2,480	3,730	6,310	564	674	750
18	2,230	2,250	1,880	3,390	4,260	3,730	3,930	3,560	4,960	1,420	782	1,140
19	2,310	1,760	1,610	3,460	2,580	2,280	4,150	3,460	4,560	768	798	1,200
20	2,190	1,290	3,200	3,390	2,280	1,800	4,110	3,530	4,380	518	493	1,270
21	2,470	975	3,390	3,320	3,710	3,390	3,900	1,900	4,380	674	479	1,680
22	2,270	2,050	3,350	1,170	3,530	3,390	3,880	1,840	4,510	624	933	1,830
23	1,080	2,360	3,390	1,590	3,480	3,560	2,250	3,460	4,450	441	942	1,940
24	1,750	2,500	3,120	3,220	3,680	3,560	2,190	3,460	4,140	103	911	937
25	2,170	2,530	1,070	3,500	3,650	3,730	3,500	3,440	2,830	523	814	1,230
26	2,060	2,340	532	3,400	2,530	2,050	3,340	3,730	2,470	731	832	2,000
27	2,170	1,500	1,920	3,460	2,540	1,250	3,380	3,980	4,140	415	615	2,210
28	2,230	1,930	3,000	3,340	3,670	3,390	3,360	2,530	4,100	210	339	1,870
29	2,220	2,050	3,500	1,810	-----	3,670	3,240	2,490	4,110	140	600	2,140
30	1,130	1,530	3,500	790	-----	3,580	1,940	3,380	4,110	24	731	2,170
31	1,000	-----	3,550	2,940	-----	3,820	-----	3,540	-----	0	865	-----

*Daily discharge, in second-feet, of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1911-12</b>												
1	1,750	7,690	5,190	3,430	5,150	4,700	3,800	7,470	11,200	1,880	7,170	8,590
2	1,930	7,520	5,430	4,820	5,150	4,900	4,050	7,290	10,400	3,600	6,910	8,790
3	3,310	7,520	4,440	5,110	4,740	3,870	4,100	7,100	10,500	2,890	7,360	9,650
4	4,030	7,930	4,240	5,150	3,900	3,950	4,100	7,270	11,200	733	6,860	11,200
5	3,630	6,680	5,360	5,150	4,610	4,530	4,100	5,950	11,200	1,600	6,760	10,900
6	7,040	6,070	5,560	5,010	5,170	4,770	4,310	5,390	11,200	1,690	8,360	10,400
7	5,430	5,560	5,550	3,990	5,080	4,930	2,590	6,340	10,600	998	8,730	8,900
8	5,130	4,300	5,330	3,660	5,130	5,150	2,460	6,290	8,680	1,720	8,570	10,300
9	4,820	4,240	5,450	4,460	5,150	4,960	3,510	5,660	8,930	2,570	8,790	8,810
10	6,300	4,440	6,310	4,800	5,150	4,140	3,630	5,750	6,960	2,560	9,710	9,870
11	8,620	4,610	7,110	5,380	4,220	4,440	3,780	5,220	7,190	2,020	8,620	9,740
12	9,360	3,550	8,460	5,510	4,570	4,840	4,440	3,190	6,620	2,250	8,800	9,790
13	9,360	2,730	9,660	5,430	4,990	5,060	4,790	3,400	6,420	2,440	9,540	9,870
14	10,500	5,380	9,750	4,220	5,080	4,810	3,020	5,390	4,830	1,170	8,510	9,870
15	10,000	5,430	10,600	4,110	4,810	4,690	3,050	5,900	4,680	1,380	8,430	8,350
16	10,100	5,420	11,900	5,190	4,810	4,500	5,020	5,340	2,960	1,870	5,750	8,320
17	10,700	5,750	11,400	5,220	4,900	3,330	5,150	5,390	2,600	2,020	6,460	9,810
18	10,000	5,280	11,500	5,220	3,790	4,000	5,150	3,830	4,190	2,350	7,630	9,810
19	10,200	5,780	12,000	5,400	4,440	5,430	5,470	5,590	4,570	2,460	7,800	9,770
20	10,200	3,380	11,700	5,460	4,810	4,440	5,720	4,890	4,450	2,350	8,790	10,100
21	10,200	5,380	11,800	4,200	4,810	3,470	3,990	7,310	4,350	1,100	8,060	10,300
22	10,100	5,320	11,700	4,370	4,480	4,110	4,110	10,300	4,480	1,410	7,180	9,250
23	9,890	5,360	11,400	5,500	5,270	3,780	6,050	9,660	1,780	3,080	7,180	8,890
24	10,800	5,380	10,200	5,400	5,590	2,810	7,580	8,630	2,660	5,900	7,520	9,600
25	10,900	5,380	9,130	5,360	4,450	2,800	8,070	9,130	4,100	3,400	5,790	10,400
26	10,700	3,710	10,700	5,290	4,530	3,690	8,390	8,900	4,450	3,200	5,610	9,770
27	10,600	3,390	6,300	5,450	5,180	4,190	7,310	9,540	4,170	3,560	5,430	8,400
28	9,730	5,150	4,050	4,150	5,150	4,480	6,100	11,000	4,340	2,060	6,450	8,400
29	8,620	4,390	4,310	4,280	5,110	4,440	5,520	11,200	4,170	2,170	6,010	6,890
30	7,900	5,870	5,060	5,150	-----	4,100	7,110	11,500	2,780	4,500	6,400	6,840
31	7,550	-----	4,040	5,170	-----	2,950	-----	11,400	-----	7,200	6,910	-----
<b>1912-13</b>												
1	8,900	4,150	2,910	4,090	3,590	3,460	12,800	9,540	9,890	3,840	4,390	1,260
2	8,880	4,290	3,300	4,290	2,270	1,500	13,300	8,150	10,100	4,110	4,150	2,950
3	8,120	2,700	3,370	4,190	1,640	1,260	14,700	8,010	10,300	3,980	2,400	2,950
4	7,800	2,840	4,900	4,420	3,390	3,460	14,400	6,440	10,500	1,930	2,340	3,030
5	7,910	3,900	4,830	2,390	3,420	3,460	13,900	7,570	10,400	1,900	3,850	2,990
6	6,090	4,140	5,180	2,180	3,460	3,460	13,400	8,370	10,300	1,270	3,780	3,160
7	5,910	4,110	4,200	3,990	3,620	3,660	13,800	8,090	9,360	2,870	3,820	1,570
8	7,150	4,200	2,060	3,970	3,650	3,820	13,900	8,170	8,480	4,530	3,980	1,100
9	6,300	3,950	3,380	3,950	3,660	1,890	13,900	7,570	8,660	4,720	3,780	2,020
10	6,120	2,360	4,070	3,930	1,450	226	14,100	7,680	9,420	3,970	2,200	2,120
11	4,490	2,400	5,250	3,780	3,230	3,660	14,900	5,770	8,230	3,900	2,130	2,080
12	4,190	3,590	10,300	2,120	3,540	4,410	14,000	6,730	8,390	4,390	3,330	1,920
13	3,100	3,860	4,330	2,280	3,310	4,810	14,400	7,900	7,150	2,530	3,890	2,000
14	2,650	3,940	4,460	3,610	3,490	7,050	14,100	7,550	6,560	2,520	3,780	1,070
15	4,230	4,140	3,040	3,900	3,660	4,590	14,400	8,560	5,180	3,710	3,680	0
16	4,490	4,180	2,390	3,820	1,810	2,240	14,300	8,010	4,770	4,240	3,780	2,110
17	4,480	2,570	4,330	4,280	1,730	3,630	14,200	8,450	4,770	4,390	2,220	2,120
18	4,720	2,560	4,460	3,990	3,380	3,700	13,900	6,320	4,860	4,440	2,070	1,990
19	4,190	4,450	4,480	1,980	3,500	3,950	13,900	6,640	4,810	3,820	3,370	1,960
20	2,900	4,720	4,440	2,170	3,780	4,860	13,100	7,950	4,140	2,090	3,560	2,110
21	2,560	4,740	4,340	3,510	3,500	4,990	13,600	9,050	4,010	2,620	3,560	1,020
22	4,440	4,770	2,870	3,940	2,760	7,630	13,200	8,670	2,440	3,850	3,390	98
23	4,610	4,590	2,620	3,780	2,120	7,900	12,700	9,170	2,530	4,320	3,390	2,200
24	4,610	2,240	4,030	3,700	1,820	13,000	12,500	10,100	4,280	4,280	1,830	2,340
25	4,480	2,630	1,560	3,700	3,660	9,900	11,800	9,480	4,370	4,410	1,960	2,410
26	4,640	4,570	2,310	1,940	3,460	10,400	11,800	10,200	4,410	4,480	3,230	2,410
27	2,900	4,680	3,700	1,760	3,440	10,900	10,300	10,200	4,390	2,420	3,230	2,510
28	2,700	4,670	3,970	3,510	3,190	12,200	9,950	8,170	4,150	2,530	3,560	1,470
29	4,160	4,810	2,280	3,820	-----	12,300	10,400	12,400	2,740	4,360	2,930	1,200
30	4,150	4,810	2,220	3,500	-----	12,200	9,600	11,400	2,770	4,150	2,810	2,890
31	4,500	-----	3,910	3,580	-----	12,800	-----	10,800	-----	4,460	1,340	-----

*Daily discharge, in second-feet, of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.—(Concluded).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1913-14</b>												
1-----	3,300	4,030	2,380	4,450	2,190	2,310	1,900	3,420	4,860	10,600	3,600	1,480
2-----	3,380	2,660	4,460	4,320	3,720	3,000	2,110	3,680	6,130	10,100	2,670	1,120
3-----	3,370	2,570	4,460	3,800	4,280	3,970	1,890	1,840	6,310	9,510	210	1,040
4-----	3,410	3,740	4,520	1,720	4,350	3,820	1,930	2,590	12,700	7,350	2,340	806
5-----	1,750	4,350	4,540	2,490	4,440	3,840	1,200	3,600	11,900	6,780	2,480	1,140
6-----	1,750	4,410	4,610	3,230	4,320	3,190	1,540	3,790	12,700	7,290	2,310	215
7-----	3,330	3,980	2,960	3,600	4,220	3,230	1,960	4,100	15,400	5,920	2,440	229
8-----	3,460	3,560	2,190	3,520	2,540	1,280	2,020	3,810	12,700	4,130	2,350	1,330
9-----	3,740	1,970	4,750	3,290	3,190	2,790	1,960	3,930	13,300	4,170	1,640	1,100
10-----	3,580	1,500	4,720	3,380	4,140	3,620	2,410	2,510	13,100	4,650	301	1,130
11-----	3,720	3,770	4,630	1,860	4,310	3,860	1,870	2,530	13,200	4,650	1,830	1,180
12-----	2,360	4,180	4,700	2,080	4,110	3,860	1,180	3,640	13,200	3,150	2,120	1,150
13-----	1,880	4,030	4,700	4,120	4,280	3,900	1,730	4,320	13,300	3,540	2,020	477
14-----	4,010	3,380	2,600	4,410	4,180	4,050	3,110	4,370	12,200	4,540	1,420	598
15-----	3,900	3,340	2,800	4,440	2,640	2,050	2,760	4,390	12,300	4,580	1,290	2,500
16-----	3,660	2,000	4,350	4,320	3,330	2,720	2,740	4,450	13,300	4,670	484	1,770
17-----	3,740	2,270	4,630	4,370	4,180	3,680	2,690	2,700	13,400	4,310	396	1,720
18-----	3,700	3,220	4,540	2,190	4,280	3,580	2,760	2,890	13,400	4,230	1,440	1,660
19-----	2,240	3,660	4,480	2,660	4,280	3,810	1,540	4,700	12,400	2,770	1,220	1,800
20-----	2,240	4,010	4,270	3,870	4,270	3,930	1,990	4,720	12,700	2,940	1,230	679
21-----	3,190	4,350	1,860	4,070	4,400	3,740	3,370	4,790	12,200	4,150	1,150	1,850
22-----	3,740	4,240	2,720	4,060	2,590	1,790	3,720	4,750	12,300	4,350	1,260	2,530
23-----	3,930	2,530	4,070	4,140	2,970	2,260	3,840	4,670	12,600	4,220	853	2,720
24-----	4,350	2,360	4,500	4,110	3,950	3,560	3,820	3,010	12,500	4,250	285	2,820
25-----	3,860	4,320	1,840	1,990	4,180	4,030	4,220	3,350	11,800	4,010	792	2,820
26-----	2,620	4,370	2,600	2,640	4,030	3,720	2,420	4,720	11,200	2,270	1,130	3,020
27-----	2,230	4,150	3,100	3,930	4,070	3,560	3,030	4,770	11,500	2,700	1,020	1,240
28-----	3,600	4,270	2,270	4,070	4,220	3,450	3,540	6,580	9,740	3,310	1,040	1,900
29-----	3,720	4,440	2,150	4,570	-----	1,660	3,540	6,550	9,840	3,650	1,050	2,520
30-----	3,660	2,900	4,240	4,010	-----	2,820	3,460	5,350	10,800	3,670	616	2,670
31-----	3,700	-----	4,480	4,270	-----	2,710	-----	4,280	-----	3,630	363	-----



Monthly discharge of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.  
[Drainage area, 6,230 square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1896						
March (3-31)	1,740	838	1,300			
April	1,760	406	911			
May	4,250	1,560	3,120			
June	4,600	2,170	3,730			
July	3,860	880	2,790			
August	2,610	123	1,450			
September	390	10	141			
1896-97						
October	1,850	145	1,070			
November	2,880	985	2,010			
December	3,560	838	2,360			
January	3,460	1,510	2,750			
February	3,530	1,300	2,760			
March	5,340	1,160	2,710			
April	8,730	3,300	6,130			
May	5,340	2,520	4,010			
June	4,750	2,030	3,260			
July	4,070	1,300	3,200			
August	3,230	116	1,850			
September	6,440	272	1,020			
The year	8,730	116	2,760			
1897-98						
October	2,990	556	1,510			
November	2,700	859	1,890			
December	3,030	823	2,260			
January	3,220	1,420	2,610			
February	3,200	1,490	2,330			
March	3,870	1,700	2,970			
April	5,690	2,570	4,080			
May	6,850	2,200	4,690			
June	4,990	1,600	3,240			
July	2,550	439	1,570			
August	2,810	866	1,820			
September	1,800	442	1,090			
The year	6,850	439	2,510			
1898-99						
October	2,370	383	1,200			
November	2,730	1,230	2,220			
December	2,810	994	2,180			
January	2,420	771	1,900			
February	2,810	1,010	2,070			
March	3,440	995	2,250			
April	5,710	1,450	3,660			
May	8,770	3,790	6,220			
June	8,740	4,020	6,300			
July	5,170	1,740	3,790			
August	3,500	791	1,820			
September	1,440	578	988			
The year	8,770	383	2,880			
1899-1900						
October	2,080	398	1,140			
November	2,650	613	2,120			
December	2,580	105	2,040			
January	2,680	841	2,180			
February	3,020	1,040	2,250			
March	3,680	1,110	2,560			
April	4,350	1,110	3,420			
May	4,050	1,380	2,980			
June	2,210	258	873			
July	2,940	131	1,040			
August	2,650	1,060	1,830			
September	3,520	1,110	2,020			
The year	4,350	105	2,030			

*Monthly discharge of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.—(Continued).*

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1900-01						
October.....	8,040	1,730	5,230	-----	-----	-----
November.....	9,530	2,690	5,540	-----	-----	-----
December.....	5,470	639	2,640	-----	-----	-----
January.....	3,020	886	2,260	-----	-----	-----
February.....	4,580	1,820	3,740	-----	-----	-----
March.....	6,430	1,740	3,840	-----	-----	-----
April.....	12,000	2,470	8,960	-----	-----	-----
May.....	6,910	3,450	5,000	-----	-----	-----
June.....	5,090	1,740	3,720	-----	-----	-----
July.....	4,560	2,080	3,500	-----	-----	-----
August.....	3,850	1,130	2,180	-----	-----	-----
September.....	1,690	675	1,220	-----	-----	-----
The year.....	12,000	639	3,980	-----	-----	-----
1901-02						
October.....	3,870	991	2,560	-----	-----	-----
November.....	3,870	1,640	3,260	-----	-----	-----
December.....	3,670	1,460	2,820	-----	-----	-----
January.....	3,140	765	2,260	-----	-----	-----
February.....	3,490	696	2,140	-----	-----	-----
March.....	4,020	1,140	2,900	-----	-----	-----
April.....	3,250	947	2,330	-----	-----	-----
May.....	12,300	1,470	4,930	-----	-----	-----
June.....	11,900	3,490	6,870	-----	-----	-----
July.....	5,700	1,650	4,300	-----	-----	-----
August.....	4,090	1,310	2,900	-----	-----	-----
September.....	1,870	515	1,270	-----	-----	-----
The year.....	12,300	515	3,220	-----	-----	-----
1902-03						
October.....	3,020	435	1,850	-----	-----	-----
November.....	3,180	756	2,390	-----	-----	-----
December.....	3,100	892	2,270	-----	-----	-----
January.....	3,760	1,210	2,760	-----	-----	-----
February.....	3,650	1,680	2,950	-----	-----	-----
March.....	8,440	1,780	3,830	-----	-----	-----
April.....	9,300	3,890	6,500	-----	-----	-----
May.....	7,380	3,040	5,440	-----	-----	-----
June.....	6,790	2,660	5,060	-----	-----	-----
July.....	5,570	1,860	4,120	-----	-----	-----
August.....	4,450	1,440	3,450	-----	-----	-----
September.....	5,520	1,830	4,320	-----	-----	-----
The year.....	9,300	435	3,740	-----	-----	-----
1903-04						
October.....	5,830	2,590	4,690	-----	-----	-----
November.....	5,160	1,730	3,700	-----	-----	-----
December.....	3,700	1,320	2,880	-----	-----	-----
January.....	3,870	1,190	3,080	-----	-----	-----
February.....	4,130	1,560	3,130	-----	-----	-----
March.....	7,430	1,720	3,400	-----	-----	-----
April.....	9,640	1,610	6,690	-----	-----	-----
May.....	11,700	4,460	8,710	-----	-----	-----
June.....	9,790	2,340	6,680	-----	-----	-----
July.....	4,110	2,240	3,160	-----	-----	-----
August.....	4,040	1,550	2,980	-----	-----	-----
September.....	2,630	988	1,850	-----	-----	-----
The year.....	11,700	988	4,250	-----	-----	-----

*Monthly discharge of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.—(Continued).*

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1904-5						
October.....	6,430	1,320	3,460			
November.....	6,940	1,670	3,950			
December.....	4,590	1,810	3,620			
January.....	4,970	2,260	3,930			
February.....	5,200	2,550	4,320			
March.....	5,800	2,100	4,010			
April.....	12,700	3,080	8,550			
May.....	6,600	4,230	5,610			
June.....	15,400	6,630	12,700			
July.....	12,000	3,450	7,610			
August.....	5,170	3,050	4,430			
September.....	5,950	2,240	4,050			
The year.....	15,400	1,320	5,510			
1905-6						
October.....	4,190	2,070	3,420			
November.....	4,460	2,150	3,600			
December.....	4,420	1,690	3,460			
January.....	4,640	1,750	3,750			
February.....	4,980	2,490	3,920			
March.....	9,900	2,530	4,660			
April.....	15,900	9,150	13,700			
May.....	14,300	3,290	8,340			
June.....	6,040	2,840	4,300			
July.....	5,280	2,610	4,140			
August.....	3,440	1,520	2,710			
September.....	2,910	1,380	2,400			
The year.....	15,900	1,380	4,870			
1906-7						
October.....	3,100	811	2,270			
November.....	5,290	1,540	3,500			
December.....	6,590	2,950	5,110			
January.....	7,000	2,700	5,260			
February.....	7,690	1,520	5,570			
March.....	6,250	1,840	3,910			
April.....	12,200	5,060	10,200			
May.....	10,500	4,380	7,550			
June.....	7,690	3,310	5,720			
July.....	6,960	2,610	4,690			
August.....	5,040	1,910	3,660			
September.....	3,690	1,560	2,550			
The year.....	12,200	811	4,990			
1907-8						
October.....	3,800	1,250	2,880			
November.....	3,110	766	1,950			
December.....	3,680	828	2,290			
January.....	3,940	749	2,550			
February.....	3,490	1,020	2,730			
March.....	8,450	1,350	4,600			
April.....	10,600	5,300	8,030			
May.....	12,900	7,100	9,880			
June.....	8,730	2,350	4,830			
July.....	3,920	1,350	2,870			
August.....	3,300	196	1,620			
September.....	1,770	178	716			
The year.....	12,900	178	3,750			

*Monthly discharge of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.—(Continued).*

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1908-9						
October.....	867	194	493			
November.....	2,400	257	1,230			
December.....	6,220	681	2,260			
January.....	3,730	1,070	2,640			
February.....	3,940	1,200	2,720			
March.....	3,970	1,490	2,940			
April.....	8,150	1,590	4,110			
May.....	13,000	4,070	9,850			
June.....	8,090	3,340	6,310			
July.....	5,650	2,160	3,670			
August.....	1,590	437	883			
September.....	1,900	570	1,510			
The year.....	13,000	194	3,220			
1909-10						
October.....	1,850	451	1,220			
November.....	2,830	396	1,500			
December.....	3,840	719	2,930			
January.....	3,920	1,430	3,130			
February.....	3,880	1,540	3,110			
March.....	3,750	1,750	3,180			
April.....	5,280	1,750	3,290			
May.....	5,160	2,050	4,140			
June.....	4,390	899	2,910			
July.....	2,380	0	635			
August.....	539	0	301			
September.....	2,830	222	1,450			
The year.....	5,280	0	2,310			
1910-11						
October.....	2,470	896	1,820			
November.....	2,530	264	1,660			
December.....	3,550	532	2,680			
January.....	3,730	790	2,810			
February.....	4,310	1,100	3,010			
March.....	4,240	1,250	3,180			
April.....	4,390	1,940	3,420			
May.....	3,980	1,430	2,990			
June.....	8,820	2,470	5,490			
July.....	4,200	0	1,460			
August.....	942	0	421			
September.....	2,210	146	1,110			
The year.....	8,820	0	2,500			
1911-12						
October.....	10,900	1,750	8,050			
November.....	7,930	2,730	5,290			
December.....	12,000	4,040	7,920			
January.....	5,510	3,430	4,870			
February.....	5,590	3,790	4,840			
March.....	5,150	2,800	4,240			
April.....	8,390	2,460	4,880			
May.....	11,500	3,190	7,140			
June.....	11,200	1,780	6,220			
July.....	7,200	733	2,520			
August.....	9,710	5,430	7,490			
September.....	11,200	6,840	9,390			
The year.....	12,000	733	6,070			

*Monthly discharge of Fox River at Rapide Croche Dam,  
for the years ending Sept. 30, 1896-1914.—(Concluded).*

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1912-13						
October.....	8,900	2,560	5,040	-----	-----	-----
November.....	4,810	2,240	3,850	-----	-----	-----
December.....	10,300	1,560	3,850	-----	-----	-----
January.....	4,420	1,760	3,420	-----	-----	-----
February.....	3,780	1,450	3,050	-----	-----	-----
March.....	13,000	226	5,910	-----	-----	-----
April.....	14,900	9,600	13,200	-----	-----	-----
May.....	12,400	5,770	8,490	-----	-----	-----
June.....	10,500	2,440	6,410	-----	-----	-----
July.....	4,720	1,270	3,580	-----	-----	-----
August.....	4,390	1,340	3,150	-----	-----	-----
September.....	3,160	0	1,970	-----	-----	-----
The year.....	14,900	0	5,160	-----	-----	-----
1913-14						
October.....	4,350	1,750	3,260	-----	-----	-----
November.....	4,440	1,500	3,490	-----	-----	-----
December.....	4,750	1,840	3,710	-----	-----	-----
January.....	4,570	1,720	3,550	-----	-----	-----
February.....	4,440	2,540	3,870	-----	-----	-----
March.....	4,050	1,280	3,220	-----	-----	-----
April.....	4,220	1,180	2,540	-----	-----	-----
May.....	6,580	1,840	4,030	-----	-----	-----
June.....	15,400	4,860	11,800	-----	-----	-----
July.....	10,600	2,270	4,840	-----	-----	-----
August.....	3,600	210	1,400	-----	-----	-----
September.....	3,020	215	1,570	-----	-----	-----
The year.....	15,400	210	3,930	-----	-----	-----

FOX RIVER AT WRIGHTSTOWN, WIS.

**Location.**—At highway bridge in Wrightstown, Wis., about 200 feet from the Chicago & North Western Railway station. A small creek enters from the right immediately above the station.

**Records available.**—November 19, 1902, to March 25, 1904. Records published also in U. S. Geol. Survey Water-Supply Papers 83, 97, and 129.

**Gage.**—Vertical staff gage fastened to piling which protects center pier; read morning and evening, to nearest tenth.

**Control.**—River bed clay and loam; free from vegetation.

**Discharge measurements.**—Made from the upstream side of bridge to which gage is attached.

**Winter flow.**—Discharge relation affected by ice.

Discharge measurements of Fox River at Wrightstown, Wis., during the years ending Sept. 30, 1903–1904.

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
1903			
Nov. 19	L. R. Stockman	6.40	3,280
Nov. 20	L. R. Stockman	6.40	3,240
Dec. 11	L. R. Stockman	6.60	3,560
1903-04			
Jan. 2 (a)	L. R. Stockman	6.40	3,180
Jan. 22 (a)	L. R. Stockman	6.80	4,140
Feb. 19 (a)	L. R. Stockman	7.00	4,210
Mar. 23	L. R. Stockman	4.70	2,120
Apr. 13	L. R. Stockman	7.45	7,940
Apr. 16	L. R. Stockman	6.90	6,320
May 9	L. R. Stockman	6.90	6,510
June 3	L. R. Stockman	6.90	6,300
June 19	L. R. Stockman	6.80	5,940
July 22	E. C. Murphy	6.85	5,190
July 29	L. R. Stockman	6.60	4,740
1904			
Oct. 28	L. R. Stockman	7.08	5,990

(a) Ice present in river when measurement was made.

Daily gage height, in feet, of Fox River at Wrightstown, Wis.,  
for the years ending Sept. 30, 1903-1904.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1902-03												
1			6.45	6.4	6.15	6.15	6.85	6.8	6.65	6.85	6.6	6.8
2			6.45	6.4	5.75	5.8	7.15	7.0	6.4	6.75	6.6	6.9
3			6.5	6.35	6.75	6.8	7.25	5.7	7.4	6.8	5.15	7.0
4			6.55	5.65	6.6	6.85	7.75	6.05	7.5	6.0	6.5	7.0
5			6.5	5.15	6.75	7.0	7.95	6.9	6.7	5.3	6.65	6.9
6			6.55	6.4	6.8	6.8	7.6	7.0	6.7	5.4	6.55	6.1
7			5.5	6.6	6.85	6.95	7.65	6.55	6.75	6.1	6.55	5.2
8			5.75	6.6	6.1	6.4	7.0	7.05	5.9	6.1	6.5	6.6
9			6.4	6.5	5.7	5.95	6.95	6.95	5.55	6.2	5.7	7.1
10			6.45	6.1	6.85	6.9	7.05	5.65	6.95	6.0	5.7	7.2
11			6.6	6.3	7.05	7.0	7.75	5.85	7.0	6.0	6.8	7.3
12			6.5	5.5	7.1	6.95	7.65	6.7	7.0	5.2	6.6	7.2
13			6.5	6.5	7.0	7.05	7.4	6.75	6.9	5.9	6.6	6.5
14			5.7	6.5	7.05	7.0	7.85	6.7	5.8	6.85	6.9	6.2
15			5.5	6.75	6.45	6.35	7.75	6.7	5.75	6.8	6.9	7.3
16			6.55	6.9	5.95	5.9	7.15	6.7	6.8	6.85	5.9	7.4
17			6.45	7.0	6.8	7.1	7.15	6.8	6.75	6.9	5.7	7.4
18			6.4	5.5	6.85	7.2	6.95	5.9	6.8	7.0	5.7	7.4
19		6.4	6.4	5.7	7.0	8.65	5.95	6.85	6.7	6.0	6.9	7.5
20		6.45	6.45	6.8	7.0	7.6	6.1	7.0	6.7	5.8	6.9	6.7
21		6.45	5.7	6.9	7.05	6.0	6.85	6.9	5.35	6.8	6.8	6.3
22		6.45	5.45	6.85	6.35	4.9	6.75	6.9	5.6	6.9	6.8	7.3
23		5.4	6.35	6.9	5.95	4.9	6.85	7.0	6.6	6.9	5.9	7.4
24		5.5	6.3	6.9	6.8	6.15	6.75	5.5	6.7	6.9	5.6	7.3
25		6.45	5.6	5.8	6.8	6.4	6.6	6.35	6.8	6.7	6.8	7.4
26		6.55	5.5	5.7	6.8	6.45	5.9	7.1	6.75	5.8	6.9	7.4
27		6.5	6.35	6.85	7.05	6.35	5.9	7.5	6.65	5.4	6.9	6.3
28		6.45	5.6	6.9	7.2	6.55	6.85	7.25	5.7	6.5	6.9	6.05
29		6.5	5.45	6.95		6.05	7.0	7.2	5.55	6.6	7.0	7.3
30		5.3	6.25	6.85		5.6	6.9	7.2	6.8	6.6	5.9	7.35
31			6.4	6.85		6.65				6.6	5.4	
1903-04												
1	7.25	5.95	6.2	5.3	5.6	6.6						
2	7.2	5.6	6.3	5.2	6.8	6.8						
3	7.2	6.75	6.3	5.3	6.8	6.8						
4	6.35	6.9	6.55	5.3	6.8	6.8						
5	6.1	6.9	6.6	6.6	6.6	6.8						
6	7.2	6.9	5.65	6.4	6.7	5.5						
7	7.45	6.9	5.55	6.8	5.8	5.4						
8	7.25	5.8	6.45	6.8	5.4	6.8						
9	7.15	5.45	6.5	6.8	6.7	7.0						
10	7.2	6.6	6.6	5.6	6.7	7.0						
11	6.2	6.85	6.5	6.0	6.7	7.0						
12	5.95	6.85	6.5	6.6	6.8	6.9						
13	7.05	6.85	5.5	6.7	6.8	5.6						
14	7.2	6.8	5.45	6.6	5.7	5.8						
15	7.2	5.7	6.4	6.6	5.4	6.6						
16	7.2	5.35	6.8	6.5	6.7	7.0						
17	7.2	6.65	6.85	5.4	6.7	7.1						
18	6.85	6.7	6.6	5.0	6.6	7.0						
19	5.8	7.35	6.6	5.9	6.7	7.1						
20	7.35	6.75	5.8	6.4	6.6	5.8						
21	7.05	6.8	6.0	6.4	5.8	5.8						
22	7.15	5.8	6.4	6.8	6.4	7.2						
23	7.05	5.6	6.6	6.7	6.6	7.6						
24	7.05	6.85	6.6	5.1	7.2	7.5						
25	6.1	7.1	5.55	5.6	7.2	10.8						
26	5.8	6.75	5.05	6.6	7.2							
27	6.95	6.25	3.8	6.7	7.0							
28	7.1	6.2	4.2	6.8	5.4							
29	7.1	5.9	5.2	6.7	5.8							
30	7.1	5.9	5.4	6.7								
31	7.0		5.4	5.8								

WOLF RIVER AT KESHENA, WIS.

**Location.**—At the highway bridge at Keshena, Wis., 3 miles below junction with West Branch of Wolf River, coming in from the right.

**Records available.**—May 9, 1907, to March 31, 1909; February 10, 1911, to September 30, 1914. Records published also in United States Geological Survey Water-Supply Papers 244, 264, 304, and 324.

**Drainage area.**—797 square miles.

**Gag .**—Vertical staff gage read twice daily up to October 1, 1911; since that date three times daily; limits of use: hundredths below 0.5 foot, half tenths between 0.5 foot and 1.5 feet, and tenths above 1.5 feet. Same datum maintained since gage was installed.

**Control.**—Gravel; smooth and practically permanent.

**Discharge measurements.**—Made from the bridge.

**Regulation.**—The river and its main tributaries above Keshena are controlled to some extent by logging dams.

**Winter flow.**—During the winter solid ice cover forms in the vicinity of the gage, causing from 1 to 3 feet of backwater; at times during the winter slush ice and frazil ice collect under this ice cover, making it impossible to make discharge measurements. The ice forms at the falls above Keshena and floats in the river as far as backwater from the dam at Shawano.

**Accuracy.**—Conditions at station favorable; open-water rating curve for stages between gage heights 1 and 4 feet excellent, and accuracy depends on the accuracy of the determination of the mean gage height.

**Cooperation.**—Station maintained in cooperation with United States Indian Service.

Discharge measurements of Wolf River at Keshena, Wis., during the year ending Sept. 30, 1914.

Date	Made by	Gage height	Discharge
1914		Feet	Sec.-feet
Feb. 16 (a).....	O. A. Steller.....	3.00	420
Mar. 19 (b).....	O. A. Steller.....	2.82	556
June 12.....	H. C. Beckman.....	2.19	833

(a) Measurement made four miles below gage.  
(b) Original notes lost; data as given from unchecked notes.



Daily gage height, in feet, of Wolf River at Keshena, Wis.,  
for the year ending Sept. 30, 1914.

[ Ray Gauthier. observer]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1-----	2.3	2.2	1.8	3.7	3.3	2.9	2.8	3.9	2.3	3.2	1.9	2.4
2-----	2.2	2.3	2.1	3.7	3.2	2.8	2.7	3.6	2.1	3.1	1.9	2.5
3-----	2.3	2.4	2.0	3.6	3.3	2.8	2.4	3.4	2.0	3.2	2.0	2.5
4-----	2.2	2.2	1.7	3.6	3.4	2.9	2.2	3.2	2.4	3.1	2.0	3.2
5-----	2.2	2.1	1.5	3.4	3.5	2.9	2.5	3.0	2.6	3.0	2.0	2.9
6-----	2.1	2.2	1.5	3.4	3.5	2.8	2.4	3.0	2.9	2.9	2.1	2.4
7-----	2.2	2.2	1.3	3.4	3.4	2.7	2.3	2.9	2.8	2.9	1.9	2.4
8-----	2.5	2.2	1.3	3.4	3.3	2.8	2.1	2.8	2.7	3.0	1.9	2.4
9-----	2.7	2.6	1.4	3.4	3.4	2.8	1.9	2.9	2.7	2.9	1.8	2.4
10-----	2.9	2.8	1.3	3.4	3.3	2.9	2.0	2.8	2.6	2.7	1.7	2.4
11-----	3.3	2.6	1.2	3.3	3.2	3.0	2.1	2.7	2.4	2.7	1.8	2.4
12-----	3.0	2.7	1.5	3.2	3.2	3.1	2.1	2.7	2.2	2.7	1.8	2.5
13-----	2.8	2.6	1.8	3.2	3.2	3.1	2.0	2.8	2.1	2.7	1.8	2.5
14-----	2.6	2.4	1.7	3.4	3.2	3.0	1.8	2.6	1.9	2.6	1.7	2.6
15-----	2.5	2.4	1.6	3.4	3.2	2.9	1.8	2.6	1.8	2.4	1.7	2.6
16-----	2.4	2.3	1.7	3.4	3.0	3.1	2.1	2.6	1.8	2.4	1.7	2.8
17-----	2.2	2.2	1.4	3.4	3.0	3.0	2.1	2.5	1.8	2.3	1.8	2.6
18-----	2.2	2.2	1.6	3.3	3.0	2.8	2.2	2.4	1.7	2.3	1.8	2.9
19-----	2.2	2.1	1.8	3.2	3.0	2.8	2.6	2.2	1.8	2.1	1.8	3.0
20-----	2.2	1.9	1.8	3.3	3.1	2.7	2.8	2.0	1.9	1.9	1.9	3.2
21-----	2.3	2.0	1.9	3.4	3.1	2.6	2.8	1.8	1.9	1.9	1.9	3.3
22-----	2.4	2.0	2.0	3.4	3.0	2.6	2.8	1.7	1.8	1.8	1.9	3.1
23-----	2.2	1.8	2.1	3.3	3.0	2.6	2.8	2.6	2.0	1.8	2.1	2.9
24-----	2.1	1.9	2.6	3.2	3.1	2.6	2.9	3.0	2.1	1.8	2.2	2.7
25-----	2.2	2.0	2.7	3.3	3.1	2.7	3.1	3.1	2.0	1.8	2.2	2.6
26-----	2.3	1.7	2.8	3.2	3.0	2.8	3.3	2.8	1.9	1.8	2.2	2.5
27-----	2.6	1.6	2.9	3.2	2.9	2.7	3.4	2.8	2.1	1.8	2.2	2.3
28-----	2.7	1.4	2.9	3.4	2.8	2.6	3.5	2.6	2.4	1.8	2.2	2.2
29-----	2.6	1.4	3.0	3.4	-----	2.7	3.7	2.6	2.6	1.8	2.3	2.2
30-----	2.4	1.2	3.2	3.3	-----	3.0	4.0	2.5	2.8	1.8	2.4	2.2
31-----	2.3	-----	3.4	3.2	-----	3.0	-----	2.4	-----	1.9	2.4	-----

Norm:—Discharge relation affected by ice about Nov. 9-18, 1913, and Dec. 18, 1913, to Apr. 8, 1914.

Daily discharge, in second-feet, of Wolf River at Keshena, Wis.,  
for the years ending Sept. 30, 1907-1909; 1911-1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1907												
1									1,190	758	536	440
2									1,490	892	614	780
3									536	716	402	536
4									1,190	802	1,790	892
5									962	575	824	459
6									1,040	1,060	614	938
7									1,090	758	674	938
8									915	1,010	556	497
9									1,040	1,140	575	1,340
10								1,280	383	421	575	1,430
11								1,480	780	1,040	594	1,060
12								1,720	892	440	737	962
13								687	737	478	695	846
14								1,750	614	536	716	737
15								2,070	737	1,370	716	654
16								2,230	716	1,250	716	695
17								2,370	556	383	674	695
18								2,160	869	1,340	758	695
19								2,090	654	402	716	1,170
20								1,720	614	1,220	556	2,090
21								1,820	716	421	780	2,120
22								1,790	780	1,010	780	1,690
23								1,620	716	986	497	1,430
24								1,590	654	440	556	1,310
25								1,560	737	1,040	459	1,010
26								1,530	869	536	758	962
27								1,310	594	1,110	938	915
28								1,560	654	402	695	846
29								1,460	594	1,040	737	824
30								1,370	634	383	421	674
31								1,220		1,170	869	
1907-8												
1	654	614					1,060	2,180	1,170	915	654	568
2	614	614					1,050	1,890	1,100	846	622	544
3	695	634					1,020	1,750	1,070	833	634	528
4	938	695					962	1,340	1,110	802	556	528
5	758	695					1,060	1,220	962	915	575	505
6	869	614					972	962	962	939	556	556
7	758	614					1,010	1,040	716	1,100	556	505
8	780	614					996	1,140	1,110	1,920	606	489
9	737	614					1,020	1,220	1,040	2,020	575	489
10	737	614					1,010	892	1,110	1,560	556	478
11	758	654					1,110	1,040	1,040	1,370	544	478
12	737	634					1,090	1,040	1,040	1,180	568	478
13	716	634					986	915	986	1,010	556	497
14	695	634					1,060	824	1,690	939	544	489
15	695	594					1,250	924	1,120	939	517	478
16	695	575					1,080	1,250	962	716	544	489
17	695	614					1,460	1,170	614	737	614	413
18	674	634					1,310	962	575	802	583	391
19	654	614					1,500	1,310	654	789	556	497
20	654	614					1,060	1,290	674	789	568	497
21	654	716					1,590	1,260	642	802	544	478
22	634	737					1,320	1,480	654	757	536	467
23	695	695					1,170	1,530	780	757	544	383
24	594	654					1,190	1,630	780	780	556	421
25	654	654					1,460	1,500	780	757	517	293
26	654	654					1,800	1,790	780	737	528	275
27	634	654					2,060	1,370	737	780	505	328
28	634	654					2,990	1,410	759	737	528	402
29	654	654					2,680	1,460	856	654	595	622
30	614	614				1,090	2,580	1,400	856	654	595	595
31	614					1,060		1,250		687	556	

Daily discharge, in second-feet, of Wolf River at Keshena, Wis., for the years ending Sept. 30, 1907-1909; 1911-1914.—(Continued).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1908-9												
1	1,000	614										
2	1,010	544										
3	687	622										
4	674	568										
5	662	575										
6	646	536										
7	654	497										
8	606	517										
9	595	556										
10	575	544										
11	634	517										
12	583	528										
13	544	556										
14	505	575										
15	528	595										
16	505	517										
17	303	614										
18	317	556										
19	505	687										
20	467	674										
21	440	634										
22	459	575										
23	583	595										
24	687	646										
25	695	402										
26	614	440										
27	662	421										
28	646	737										
29	824	746										
30	662	737										
31	695											
1911												
1								962	1,220	567	459	489
2								776	1,410	554	532	575
3								869	972	467	463	467
4								784	910	571	575	505
5								575	1,330	451	583	497
6								824	1,270	505	478	478
7								716	1,170	467	528	583
8								864	1,060	622	674	505
9								878	1,020	606	716	489
10								622	658	528	618	594
11								654	622	594	579	575
12								650	915	567	614	478
13								962	413	482	567	497
14								860	421	497	497	654
15								874	444	478	501	687
16								497	489	493	478	516
17								943	413	451	451	716
18							1,090	906	364	383	467	737
19							1,000	771	489	402	478	556
20							1,100	1,040	559	528	516	824
21							1,270	712	429	467	606	622
22							815	878	712	554	567	544
23							754	860	878	467	528	501
24							482	897	1,200	505	614	544
25							1,250	986	934	614	482	746
26							915	741	846	489	467	938
27							1,220	892	459	489	544	a1,060
28							1,050	687	806	478	567	a1,180
29							967	906	594	528	478	a1,310
30							1,230	754	583	429	528	a1,430
31								654		575	467	

(a) Interpolated.

*Daily discharge, in second-feet, of Wolf River at Keshena, Wis., for the years ending Sept. 30, 1907-1909; 1911-1914.—(Continued).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1911-12</b>												
1	1,550	962					962	1,280	1,530	536	869	3,140
2	1,190	991					1,060	1,280	1,460	614	780	3,910
3	1,470	934					1,060	1,280	1,400	614	780	3,060
4	1,780	860					1,110	1,340	1,280	737	695	2,620
5	2,510	860					1,170	1,720	1,280	824	695	2,330
6	2,800	824					1,220	1,920	1,170	695	654	2,060
7	2,250	1,040					1,280	1,790	1,110	737	780	1,920
8	1,770	1,580					1,400	1,590	1,060	780	962	1,660
9	1,720	2,830					1,530	1,530	962	824	1,340	1,590
10	1,800	3,640					1,400	1,400	962	780	1,850	1,460
11	1,530	3,940					1,400	1,280	962	824	2,330	1,590
12	1,510						1,400	1,340	915	780	2,060	1,400
13	1,590						1,340	1,400	962	780	2,120	1,340
14	1,560						1,400	1,400	915	780	1,920	1,170
15	1,410						1,460	1,340	915	824	1,790	1,170
16	1,410						1,460	1,340	915	780	1,530	1,170
17	1,310						1,400	1,400	869	824	1,590	1,400
18	1,270						1,280	1,280	780	780	1,660	1,340
19	1,280						1,170	1,220	780	695	1,660	1,220
20	1,250						1,170	1,220	780	614	1,590	1,110
21	1,150						1,170	1,170	695	614	1,400	1,110
22	1,430						1,530	1,170	614	614	1,170	1,060
23	1,470						1,660	1,170	614	654	1,170	1,060
24	1,460						1,590	1,220	575	3,140	1,060	1,060
25	1,100						1,530	1,170	575	2,770	1,110	1,170
26	1,120						1,460	1,170	614	2,400	1,010	1,110
27	1,160						1,530	1,280	614	2,060	962	1,110
28	1,040						1,460	1,460	536	1,530	1,010	1,110
29	878						1,400	1,530	536	1,220	1,170	1,170
30	976						1,340	1,530	536	1,010	962	1,110
31	820							1,590		915	915	
<b>1912-13</b>												
1	869	962	780				1,920	1,530	1,590	1,060	1,170	a 680
2	780	915	1,170				1,920	1,530	1,660	1,060	1,060	695
3	869	824	1,220				2,190	1,530	1,590	1,010	1,010	1,010
4	915	780	1,170				2,260	1,530	1,530	1,060	962	1,010
5	962	780	1,170				2,330	1,460	1,340	1,110	869	915
6	869	780	1,170				2,330	1,590	1,280	1,060	869	780
7	869	780	1,110				2,260	1,790	1,280	1,110	869	780
8	962	780	1,110				2,060	1,920	1,220	1,110	915	824
9	962	869	1,060				1,850	2,190	1,110	1,170	962	824
10	915	869					1,720	1,850	1,060	1,220	962	737
11	962	824					1,720	1,660	1,060	1,170	915	695
12	1,010	869					1,660	1,400	1,060	1,220	869	695
13	1,170	869					1,660	1,400	1,060	1,280	869	654
14	1,170	1,010					1,660	1,400	1,060	1,280	824	654
15	1,170	915					1,660	1,340	1,110	1,110	780	654
16	962	915					1,790	1,280	1,110	1,060	780	654
17	962	869					1,850	1,220	1,110	1,110	780	695
18	915	915					1,990	1,170	1,170	1,110	824	737
19	1,010	869					2,190	1,110	1,220	1,010	824	737
20	869	869					2,190	1,060	1,340	1,010	780	869
21	915	869					2,260	1,060	1,280	1,060	780	1,340
22	1,010	869					1,990	1,110	1,220	915	780	1,280
23	1,010	824					1,990	1,170	1,170	915	780	1,170
24	869	915					1,990	1,110	1,110	915	695	1,060
25	915	824					1,990	1,060	1,170	869	654	1,220
26	869	780					2,120	1,060	1,220	915	654	1,220
27	915	737					2,060	1,110	1,170	869	614	1,170
28	869	780					1,850	1,170	1,110	915	a 630	1,060
29	962	780					1,720	1,400	1,060	1,220	a 640	962
30	962	737					1,720	1,660	1,110	1,280	a 660	915
31	962							1,660		1,280	a 570	

(a) Estimated. Interpolation.

Daily discharge, in second-feet, of Wolf River at Keshena, Wis., for the years ending Sept. 30, 1907-1909; 1911-1914.—(Concluded).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1913-14												
1-----	901	853	672	-----	-----	-----	-----	1,850	901	1,400	715	950
2-----	853	901	806	-----	-----	-----	-----	1,660	806	1,340	715	1,000
3-----	901	950	760	-----	-----	-----	-----	1,530	760	1,400	760	1,000
4-----	853	853	630	-----	-----	-----	-----	1,400	950	1,340	760	1,400
5-----	853	806	552	-----	-----	-----	-----	1,280	1,050	1,280	760	1,220
6-----	806	853	552	-----	-----	-----	-----	1,280	1,220	1,220	806	950
7-----	853	853	479	-----	-----	-----	-----	1,220	1,160	1,220	715	950
8-----	1,000	853	479	-----	-----	-----	-----	1,160	1,110	1,280	715	950
9-----	1,110	-----	515	-----	-----	-----	715	1,220	1,110	1,220	672	950
10-----	1,220	-----	479	-----	-----	-----	760	1,160	1,050	1,110	630	950
11-----	1,460	-----	444	-----	-----	-----	806	1,110	950	1,110	672	950
12-----	1,280	-----	552	-----	-----	-----	806	1,110	853	1,110	672	1,000
13-----	1,160	-----	672	-----	-----	-----	760	1,160	806	1,110	672	1,000
14-----	1,050	-----	630	-----	-----	-----	672	1,050	715	1,050	630	1,050
15-----	1,000	-----	590	-----	-----	-----	672	1,050	672	950	630	1,050
16-----	950	-----	630	-----	-----	-----	806	1,050	672	950	630	1,160
17-----	853	-----	515	-----	-----	-----	806	1,000	672	901	672	1,160
18-----	853	-----	-----	-----	-----	-----	853	950	630	901	672	1,220
19-----	853	806	-----	-----	-----	-----	1,050	853	672	806	672	1,280
20-----	853	715	-----	-----	-----	-----	1,160	760	715	715	715	1,400
21-----	901	760	-----	-----	-----	-----	1,160	672	715	715	715	1,460
22-----	950	760	-----	-----	-----	-----	1,160	630	672	672	715	1,340
23-----	853	672	-----	-----	-----	-----	1,160	1,050	760	672	806	1,220
24-----	806	715	-----	-----	-----	-----	1,220	1,280	806	672	853	1,110
25-----	853	760	-----	-----	-----	-----	1,340	1,340	760	672	853	1,050
26-----	901	630	-----	-----	-----	-----	1,460	1,160	715	672	853	1,000
27-----	1,050	590	-----	-----	-----	-----	1,530	1,160	806	672	853	901
28-----	1,110	515	-----	-----	-----	-----	1,590	1,050	950	672	853	853
29-----	1,050	515	-----	-----	-----	-----	1,720	1,050	1,050	672	901	853
30-----	950	444	-----	-----	-----	-----	1,920	1,000	1,160	672	950	853
31-----	901	-----	-----	-----	-----	-----	-----	950	-----	715	950	-----

NOTE:—Daily discharge 1907 to 1914 computed from well defined rating curves. Table for Oct. 1 to Dec. 31, 1913 differs slightly from that published in U. S. Geol. Survey Water Supply-Paper 354, on account of revision of rating curve, Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements, climatologic records and discharge of adjacent drainage areas, as follows: Nov. 9-18, 1913, 850 second-feet; Dec. 18-31, 1913, 480 second-feet; Jan. 1-31, 1914, 500 second-feet; Feb. 1-28, 450 second-feet; Mar. 1-25, 500 second-feet; Mar. 26-31, 600 second-feet; and Apr. 1-8, 640 second-feet.

Monthly discharge of Wolf River at Keshena, Wis., for the years ending  
Sept. 30, 1907-1909; 1911-1914.  
[Drainage area, 797 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1907						
May (10-31).....	2,370	687	1,650	2.07	1.69	A
June.....	1,490	383	798	1.00	1.12	A
July.....	1,370	383	811	1.02	1.18	A
August.....	1,790	402	694	.871	1.00	A
September.....	2,120	440	988	1.24	1.38	A
1907-8						
October.....	938	594	695	0.872	1.01	A
November.....	737	575	640	.803	.90	A
December.....			600	.753	.87	C
January.....			510	.640	.74	D
February.....			399	.501	.54	D
March.....	1,090		608	.763	.88	D
April.....	2,990	962	1,360	1.71	1.91	A
May.....	2,180	824	1,300	1.63	1.88	A
June.....	1,690	575	911	1.14	1.27	A
July.....	2,020	654	943	1.18	1.36	A
August.....	654	505	564	.708	.82	A
September.....	622	275	472	.592	.66	A
The year.....			752	.944	12.84	-----
1908-9						
October.....	1,010	303	612	0.768	0.89	A
November.....	746	402	578	.725	.81	A
December.....			450	.565	.65	D
January.....			420	.527	.61	D
February.....			448	.562	.59	C
March.....			431	.541	.62	C
1911						
January.....			350	0.439	0.51	D
February.....			400	.502	.52	D
March.....			500	.627	.72	D
April.....	1,270		749	.940	1.05	C
May.....	1,040	497	806	1.01	1.16	A
June.....	1,410	364	786	.986	1.10	A
July.....	622	383	510	.640	.74	A
August.....	716	451	536	.673	.78	A
September.....	1,430	467	677	.849	.95	A
1911-12						
October.....	2,800	820	1,470	1.84	2.12	A
November.....			1,520	1.91	2.13	C
December.....			1,000	1.25	1.44	D
January.....			620	.778	.90	C
February.....			380	.477	.51	C
March.....	824		443	.556	.64	C
April.....	1,660	962	1,340	1.68	1.87	A
May.....	1,920	1,170	1,380	1.73	1.99	A
June.....	1,530	536	897	1.13	1.26	A
July.....	3,140	536	1,020	1.28	1.48	A
August.....	2,330	654	1,280	1.61	1.86	A
September.....	3,910	1,060	1,590	1.99	2.22	A
The year.....			1,080	1.36	18.42	-----
1912-13						
October.....	1,170	780	949	1.19	1.37	A
November.....	1,010	737	846	1.06	1.18	A
December.....	1,220		974	1.22	1.41	C
January.....			630	.790	.91	C
February.....			560	.703	.73	C
March.....			720	.903	1.04	C
April.....	2,330	1,660	1,960	2.46	2.74	A
May.....	2,190	1,060	1,400	1.76	2.03	A
June.....	1,660	1,060	1,220	1.53	1.71	A
July.....	1,280	869	1,080	1.36	1.57	A
August.....	1,170	614	821	1.03	1.19	A
September.....	1,340	654	890	1.12	1.25	A
The year.....			1,010	1.27	17.13	-----

Monthly discharge of Wolf River at Keshena, Wis., for the years ending Sept. 30, 1907-1909; 1911-1914.—(Concluded).

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1913-14						
October.....	1,460	806	967	1.21	1.40	A
November.....		444	777	.975	1.09	B
December.....			538	.675	.78	C
January.....			500	.627	.72	
February.....			450	.565	.59	
March.....			519	.651	.75	
April.....	1,920		975	1.22	1.36	
May.....	1,850	630	1,140	1.43	1.65	A
June.....	1,220	630	862	1.08	1.20	A
July.....	1,400	672	964	1.21	1.40	A
August.....	950	630	748	.939	1.08	A
September.....	1,460	853	1,070	1.34	1.50	A
The year.....	1,920		794	.996	13.52	

WOLF RIVER AT WHITE HOUSE BRIDGE NEAR SHAWANO, WIS.

**Location.**—At “White House” bridge, 3½ miles north of Shawano, Wis.  
Red River enters from the right quarter of a mile below the station.  
**Records available.**—June 5, 1906, to May 31, 1907. Records published also in U. S. Geol. Survey Water-Supply Papers 206 and 244.  
**Drainage area.**—Not measured.  
**Gage.**—Chain gage fastened to floor and guard timber at upstream side of bridge.  
**Control.**—Gravel, free from vegetation.  
**Discharge measurements.**—Made from bridge to which gage is attached.  
**Accuracy.**—Records doubtful; gage being within the influence of dam at Shawano.

Discharge measurements of Wolf River at White House Bridge, near Shawano, Wis., during the year ending Sept. 30, 1906.

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
June 6.....	M. S. Brennan.....	6.90	1,970
June 30.....	M. S. Brennan.....	5.96	590

*Daily gage height, in feet, of Wolf River at White House Bridge near Shawano, Wis., for the year ending Sept. 30, 1906-1907.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1906</b>												
1											6.5	6.5
2										6.8	6.3	
3										8.2	6.4	6.5
4										7.6	6.2	6.6
5									6.9	7.6		6.4
6									7.4	7.4	6.2	6.2
7									7.7	7.3	6.2	6.1
8									7.9		6.0	5.9
9									7.7	7.1	5.9	
10									7.7	6.4	6.0	6.0
11									7.1	6.5	6.7	6.4
12									6.9	6.4		6.4
13									7.0	6.8	6.2	6.2
14									6.5	6.9	6.2	6.1
15									6.8		6.0	6.3
16									6.6	6.5	6.0	
17									6.6	6.3	6.5	7.0
18									6.5	6.0	6.3	6.6
19									6.7	6.2		6.6
20									6.5	5.8	6.0	6.4
21									6.9	6.3	5.9	6.3
22									7.2		6.0	6.4
23									6.8	6.4	6.3	
24										6.1	6.2	6.1
25									6.0	5.7	6.0	6.2
26									6.7	6.1		6.1
27									6.6	6.2	6.7	6.0
28									6.5	6.2	6.4	5.9
29									6.4		7.2	5.8
30									5.8	5.8	6.2	
31										6.0	5.8	
<b>1906-07</b>												
1	5.8	6.8	7.7				7.0	6.8				
2	5.8	6.7					7.0	6.5				
3	5.9	6.6					7.0	7.4				
4	6.0						7.0	6.8				
5	6.1	6.2					6.9	6.8				
6	6.0	6.4					7.1	5.9				
7		6.8					7.1	7.1				
8	6.3	6.5					6.8	7.1				
9	6.1	6.1					6.4	7.0				
10	6.1	6.4					6.2	6.7				
11	6.4						6.7	7.1				
12	6.4	6.2					6.9	7.1				
13	6.0	5.9					7.0	5.6				
14		6.6					7.0	7.5				
15	6.1	6.3					7.1	7.2				
16	6.1	6.3					6.7	7.2				
17	6.0	6.6					6.6	7.0				
18	6.3						6.8	6.6				
19	6.3	6.7					6.6	6.6				
20	6.9	7.2					6.5	6.5				
21		7.0					6.5	7.3				
22	6.5	7.3					6.1	6.9				
23	6.3	7.3					6.0	6.8				
24	6.6	7.2					6.6	7.0				
25	6.9					7.5	6.8	7.0				
26	6.7	8.1				7.7	6.6	7.0				
27	6.7	8.1				7.6	6.6	6.7				
28		7.4				7.7	6.6	7.4				
29	6.7	7.6				8.0	6.6	7.5				
30	6.5	7.1				7.9	6.6	6.8				
31	6.6					7.9		6.8				



**WOLF RIVER AT DARROWS BRIDGE, NEAR SHAWANO, WIS.**

**Location.**—At Darrows Bridge, about 2 miles south of Shawano, Wis.

Red River enters from the right about 6 miles above the station.

**Records available.**—April 21, to June 4, 1906. Records published also in U. S. Geol. Survey Water-Supply Paper 206.

**Drainage area.**—Not measured.

**Gage.**—Staff gage, read once daily, to nearest tenth of a foot.

**Regulation.**—Daily flow modified by operation of dam at Shawano.

The following discharge measurement was made by Horton and Brennon:

April 21, 1906: Gage height, 5.87 feet; discharge, 3,890 second-feet.

*Daily gage height, in feet, of Wolf River at Darrows Bridge, near Shawano, Wis., for the year ending Sept. 30, 1906.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1								4.7	4.8			
2								4.7	4.3			
3								4.5				
4								4.0	3.8			
5								4.8				
6												
7								4.6				
8								4.7				
9								4.3				
10								4.6				
11								3.5				
12								4.2				
13												
14								4.8				
15								4.8				
16								4.7				
17								4.8				
18								4.1				
19								4.1				
20												
21							6.1	4.2				
22								3.6				
23							5.4	3.9				
24							5.3	3.8				
25							5.0	4.2				
26							4.7	4.2				
27							4.7					
28							4.6	3.6				
29								5.2				
30							4.5	5.0				
31								4.3				

**WOLF RIVER AT NEW LONDON, WIS.**

**Location.**—At Pearl Street highway bridge, New London, Wis. Embarrass River enters from the right three-fourths mile above station, and Little Wolf River, also from the right, 5 miles below station.

**Records available.**—Gage heights March 1, 1899, to September 30, 1914; daily discharge estimates October 1, 1913, to September 30, 1914.

**Drainage area.**—2,240 square miles.

**Gage.**—Enameled steel gage, reading from 1.0 to 13.0 feet, fastened to pile under downstream side of Pearl Street Bridge; read at noon, to the nearest tenth; limits of use: tenths at all stages. Datum of the gage was raised 0.641 foot on March 1, 1911, according to the U. S. Army Engineers.

**Control.**—River channel sand, hard pan, and mud.  
**Discharge measurements.**—Made from the Shawano Street Bridge, two blocks below the gage.  
**Floods.**—According to the U. S. Army Engineers, the maximum recorded stage is 11.6 feet above zero of gage.  
**Winter flow.**—Discharge relation affected by ice; flow estimated from discharge measurements made through the ice.  
**Regulation.**—The operation of power plants may cause some diurnal fluctuation; estimates of monthly means probably not affected.  
**Coopération.**—Gage read under the direction of U. S. Army Engineers.

Discharge measurements of Wolf River at New London, Wis., during the year ending Sept. 30, 1914.

Date	Made by	Gage height	Dis-charge
		Feet	Sec.- feet
Jan. 12 (a)	G. H. Canfield	2.90	947
Feb. 16 (a)	H. C. Beckman	2.60	791
Apr. 16 (b)	H. C. Beckman and G. H. Canfield	4.05	1,920
May 22	H. C. Beckman	5.53	2,480
June 7	W. G. Hoyt	8.96	5,930
June 9	H. C. Beckman	9.90	8,500
Aug. 17	M. F. Rather	1.80	1,010

(a) Complete ice cover one-fourth mile below gage.  
(b) Measured from highway bridge about 1,800 feet below gage; control clear.

Daily gage height, in feet, of Wolf River at New London, Wis., for the year ending Sept. 30, 1914.  
[A. H. Pape, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1	4.8	3.6	4.6	2.8	3.2	2.6	5.0	6.8	6.4	6.0	2.8	2.7
2	4.8	3.7	4.6	2.8	3.2	2.6	5.5	6.9	6.2	6.1	2.7	2.9
3	4.5	3.7	4.5	2.8	3.1	2.7	5.7	7.1	5.9	6.3	2.6	3.1
4	4.1	3.7	4.5	2.8	3.0	2.8	5.8	7.2	6.6	6.4	2.5	3.2
5	3.9	3.7	4.4	2.8	3.0	2.8	5.7	7.3	7.2	6.6	2.5	3.3
6	3.9	3.8	4.3	2.8	2.9	2.9	5.5	7.4	7.8	6.6	2.5	3.4
7	3.9	3.8	4.0	2.8	2.8	2.9	5.2	7.4	8.9	6.6	2.6	3.5
8	4.2	3.8	3.7	2.9	2.8	3.0	4.9	7.2	9.6	6.5	2.5	3.4
9	4.6	3.7	3.2	3.0	2.8	3.0	4.5	7.0	9.9	6.3	2.4	3.1
10	4.6	3.6	2.7	3.0	2.8	3.0	4.5	6.8	9.9	6.0	2.2	3.1
11	4.9	3.3	2.8	2.9	2.8	3.0	4.2	6.5	9.7	5.7	2.0	3.0
12	5.1	3.0	3.2	2.9	2.8	3.0	4.1	6.4	9.4	5.2	2.0	3.0
13	5.1	3.2	3.3	2.9	2.8	3.1	4.1	6.0	9.0	5.0	2.0	3.1
14	5.0	3.1	3.3	2.9	2.8	3.4	4.0	5.8	8.8	4.8	2.0	3.1
15	5.0	3.3	3.3	2.8	2.7	3.6	4.0	5.7	8.3	4.5	1.8	3.7
16	4.9	3.2	3.4	2.8	2.6	4.3	4.0	5.5	7.8	4.5	1.8	4.2
17	4.9	3.2	3.2	2.9	2.6	4.7	4.1	5.3	7.2	4.4	1.8	4.7
18	4.9	3.2	3.2	2.9	2.6	4.8	4.2	5.2	6.8	4.2	2.1	5.0
19	4.5	3.4	3.0	2.9	2.6	4.8	4.6	5.0	6.3	3.8	2.6	5.0
20	4.2	3.8	2.6	3.0	2.6	4.8	5.0	4.6	5.7	3.6	2.8	5.2
21	4.0	4.1	2.4	3.1	2.6	4.8	5.2	4.6	5.2	3.2	3.3	5.3
22	3.9	4.4	2.4	3.1	2.6	4.4	5.4	5.6	5.1	3.1	3.4	5.4
23	3.7	4.5	2.4	3.1	2.6	4.3	5.5	5.9	4.9	3.1	3.4	5.4
24	3.5	4.6	2.4	3.1	2.6	4.0	5.6	6.2	4.9	3.1	3.3	5.3
25	3.5	4.6	2.4	3.0	2.6	3.6	5.8	6.3	4.8	2.9	3.1	4.8
26	3.5	4.4	2.6	3.0	2.6	3.5	5.9	6.3	4.5	2.8	2.9	4.6
27	3.6	4.3	2.7	3.0	2.6	3.5	6.0	6.4	4.6	3.0	2.9	4.0
28	3.6	4.2	2.6	2.9	2.6	3.3	6.1	6.5	5.1	2.9	2.7	3.8
29	3.5	4.2	2.6	3.0		3.5	6.4	6.5	5.6	2.9	2.6	3.4
30	3.5	4.3	2.6	3.2		4.0	6.5	6.4	5.7	2.9	2.6	3.3
31	3.6		2.6	3.4		4.6		6.4		2.9	2.6	

Note:—Discharge relation probably affected by ice about Dec. 22, 1913, to Mar. 28, 1914.

Daily discharge, in second-feet, of Wolf River at New London, Wis., for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1-----	2,170	1,690	2,090	-----	-----	-----	2,260	3,260	2,980	2,750	1,380	1,350
2-----	2,170	1,730	2,090	-----	-----	-----	2,500	3,340	2,860	2,800	1,350	1,420
3-----	2,050	1,730	2,050	-----	-----	-----	2,600	3,500	2,700	2,920	1,310	1,500
4-----	1,890	1,730	2,050	-----	-----	-----	2,650	3,580	3,120	2,980	1,270	1,540
5-----	1,810	1,730	2,010	-----	-----	-----	2,600	3,670	3,580	3,120	1,270	1,570
6-----	1,810	1,770	1,970	-----	-----	-----	2,500	3,760	4,160	3,120	1,270	1,610
7-----	1,810	1,770	1,850	-----	-----	-----	2,350	3,760	5,810	3,120	1,310	1,650
8-----	1,930	1,770	1,730	-----	-----	-----	2,220	3,580	6,570	3,050	1,270	1,610
9-----	2,090	1,730	1,540	-----	-----	-----	2,050	3,420	8,490	2,920	1,230	1,500
10-----	2,090	1,690	1,350	-----	-----	-----	2,050	3,260	8,490	2,750	1,160	1,500
11-----	2,220	1,570	1,380	-----	-----	-----	1,930	3,050	7,860	2,600	1,090	1,460
12-----	2,300	1,460	1,540	-----	-----	-----	1,890	2,980	7,000	2,350	1,090	1,460
13-----	2,300	1,540	1,570	-----	-----	-----	1,890	2,750	6,020	2,260	1,090	1,500
14-----	2,260	1,500	1,570	-----	-----	-----	1,850	2,650	5,610	2,170	1,090	1,500
15-----	2,260	1,570	1,570	-----	-----	-----	1,850	2,600	4,790	2,050	1,020	1,730
16-----	2,220	1,540	1,610	-----	-----	-----	1,850	2,500	4,160	2,050	1,020	1,930
17-----	2,220	1,540	1,540	-----	-----	-----	1,890	2,400	3,580	2,010	1,020	2,130
18-----	2,220	1,540	1,540	-----	-----	-----	1,930	2,350	3,260	1,930	1,120	2,260
19-----	2,050	1,610	1,460	-----	-----	-----	2,090	2,260	2,920	1,770	1,310	2,260
20-----	1,930	1,770	1,310	-----	-----	-----	2,260	2,090	2,600	1,690	1,380	2,350
21-----	1,850	1,890	1,230	-----	-----	-----	2,350	2,090	2,350	1,540	1,570	2,400
22-----	1,810	2,010	-----	-----	-----	-----	2,450	2,550	2,300	1,500	1,610	2,450
23-----	1,730	2,050	-----	-----	-----	-----	2,500	2,700	2,220	1,500	1,610	2,450
24-----	1,650	2,090	-----	-----	-----	-----	2,550	2,860	2,220	1,500	1,570	2,400
25-----	1,650	2,090	-----	-----	-----	-----	2,650	2,920	2,170	1,420	1,500	2,170
26-----	1,650	2,010	-----	-----	-----	-----	2,700	2,920	2,050	1,380	1,420	2,090
27-----	1,690	1,970	-----	-----	-----	-----	2,750	2,980	2,090	1,460	1,420	1,850
28-----	1,690	1,930	-----	-----	-----	-----	2,800	3,050	2,300	1,420	1,350	1,770
29-----	1,650	1,930	-----	-----	-----	1,650	2,980	3,050	2,550	1,420	1,310	1,610
30-----	1,650	1,970	-----	-----	-----	1,850	3,050	2,980	2,600	1,420	1,310	1,570
31-----	1,690	-----	-----	-----	-----	2,090	-----	2,980	-----	1,420	1,310	-----

NOTE:—Discharge computed from a rating curve defined between 986 and 8,820 second-feet (gage heights, 1.7 and 10.0 feet).

Discharge estimated, because of ice, from gage heights, observer's notes, discharge measurements and climatologic records, in 1913-14 as follows: Dec. 22-31, 1913, 1,160 second-feet; Jan. 1-31, 1914, 950 second-feet; Feb. 1-28, 800 second-feet; and Mar. 1-28, 1,200 second-feet.

Monthly discharge of Wolf River at New London, Wis., for the year ending Sept. 30, 1914.

[Drainage area, 2,240 square miles]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accuracy
	Maximum	Minimum	Mean	Per square mile		
October-----	2,300	1,650	1,950	0.871	1.00	B
November-----	2,090	1,460	1,760	.786	.88	B
December-----	2,090	-----	1,500	.670	.77	D
January-----	-----	-----	950	.424	.49	D
February-----	-----	-----	800	.357	.37	D
March-----	-----	-----	1,260	.562	.65	D
April-----	3,050	1,850	2,330	1.04	1.16	A
May-----	3,760	2,090	2,960	1.32	1.52	A
June-----	8,490	2,050	4,010	1.79	2.00	A
July-----	3,120	1,380	2,140	.955	1.10	A
August-----	1,610	1,020	1,290	.576	.66	A
September-----	2,450	1,350	1,820	.812	.91	A
The year-----	8,490	-----	1,900	.848	11.51	-----

**WOLF RIVER AT NORTHPORT, WIS.**

**Location.**—At the highway bridge in the village of Northport, about 3 miles west of New London.

**Records available.**—April 5, to December 31, 1905. Records published also in U. S. Geol. Survey Water-Supply Paper 170.

**Drainage area.**—Not measured.

**Gage.**—Chain gage attached to the highway bridge.

**Discharge measurements.**—Made from the highway bridge.

*Discharge measurements of Wolf River at Northport, Wis.,  
during the year ending Sept. 30, 1905.*

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
Apr. 5.....	F. W. Hanna.....	7.03	6,960
May 27.....	S. K. Clapp.....	4.65	3,960
June 17.....	M. S. Brennan.....	6.42	5,030
July 15.....	M. S. Brennan.....	5.06	3,880
Aug. 16.....	M. S. Brennan.....	3.51	2,590
Sept. 22.....	F. W. Hanna.....	3.6	2,781

*Daily gage height, in feet, of Wolf River near Northport, Wis.,  
for the year ending Sept. 30, 1905-1906.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1905												
1								3.4	6.0	3.3	2.0	1.6
2								3.6	5.0	3.0	2.3	2.4
3								3.8	5.0	3.4	2.2	2.6
4								4.0	4.9	3.6	2.1	2.2
5								4.2	4.6	3.8	2.3	3.1
6							6.9	4.4	5.6	3.3	2.2	3.4
7							6.8	4.6	5.4	4.3	2.4	3.6
8							6.7	4.8	5.3	4.6	2.9	3.3
9							6.6	4.8	5.8	4.6	3.3	3.4
10							6.5	5.0	5.8	4.9	4.0	3.6
11							6.4	5.0	5.8	5.0	3.5	3.8
12							6.3	5.2	5.9	5.2	3.6	3.5
13							6.1	5.6	6.1	5.1	3.6	2.8
14							6.0	5.8	6.4	5.1	3.0	2.5
15							5.8	5.6	6.4	4.9	3.0	2.7
16							5.6	5.5	6.6	4.2	3.5	2.9
17							5.5	5.3	6.5	4.6	3.5	2.8
18							5.2	5.3	6.4	4.3	3.3	3.0
19							5.2	5.2	6.4	4.8	3.2	3.4
20							4.9	5.0	6.2	4.6	3.0	
21							4.8	4.8	6.0	4.45	2.8	2.9
22							4.8	4.6	5.8	4.2	2.4	2.8
23							4.3	4.6	5.6	4.1	2.5	3.7
24							4.1	4.8	5.3	4.0	2.3	3.6
25							4.0	5.0	5.1	3.3	2.0	3.4
26							3.8	5.0	4.7	3.6	1.8	3.25
27							3.6	4.6	4.4	2.8	1.6	3.1
28							3.5	4.3	4.0	2.5	1.4	2.9
29							3.5	5.4	3.8	2.3	1.2	2.75
30							3.4	5.6	3.5	2.2	1.1	2.35
31								5.8		2.0	1.0	
1905-06												
1	1.55	1.3	1.7									
2	1.4	1.4	1.6									
3	1.35	1.5	1.4									
4	1.3	1.6	1.5									
5	1.15	1.7	1.6									
6	1.1	1.95	1.75									
7	.9	2.1	1.8									
8	.85	2.3	1.9									
9	.7	2.5	2.1									
10	.65	2.7	2.0									
11	.6	2.6	1.9									
12	.5	2.4	1.95									
13	.35	2.3	1.8									
14	.1	2.2	1.6									
15	.25	2.1	1.4									
16	.4	1.8	1.2									
17	.75	1.5	1.2									
18	.9	1.4	1.1									
19	1.15	1.3	1.0									
20	1.5	1.2	1.0									
21	2.2	1.1	1.0									
22	2.6	1.0	1.0									
23	2.9	.9	.9									
24	3.2	.8	.9									
25	3.4	.6	.75									
26	3.3	.4	.6									
27	3.2	.2	.5									
28	3.0	.6	.5									
29	2.1	.8	.4									
30	2.3	1.9	.4									
31	2.0											

**WOLF RIVER AT WINNECONNE, WIS.**

**Location.**—At the highway bridge in the village of Winneconne, about 1,000 feet from the Chicago, Milwaukee & St. Paul Railway depot, and about half a mile below the mouth of Lake Poygan.

**Records available.**—November 24, 1902, to July 25, 1903. Records published also in U. S. Geol. Survey Water-Supply Papers 83 and 97.

**Drainage area.**—Not measured.

**Gage.**—Vertical staff gage attached to the lower end of guard to central pier of draw bridge; read twice daily, to half-tenths.

**Control.**—Bed of river consists of loam.

**Discharge measurements.**—Made from highway bridge.

*Discharge measurements of Wolf River at Winneconne, Wis., during the year ending Sept. 30, 1903.*

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
Nov. 24 (a).....	L. R. Stockman.....	5.6	4,430
Dec. 15 (a).....	L. R. Stockman.....	5.4	1,140
Jan. 5 (a).....	L. R. Stockman.....	5.50	904
Jan. 24 (a).....	L. R. Stockman.....	5.30	1,440
Feb. 20.....	L. R. Stockman.....	5.00	1,280
Mar. 24.....	L. R. Stockman.....	6.60	10,000
Apr. 15.....	L. R. Stockman.....	6.90	3,810
May 11.....	L. R. Stockman.....	6.70	3,540
June 20.....	L. R. Stockman.....	6.40	3,190

(a) .River frozen.

*Daily gage height, in feet, of Wolf River at Winneconne, Wis., for the year ending Sept. 30, 1903.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1.....			5.5	5.5	5.3	4.8	7.1	6.6	7.0	6.1		
2.....			5.5	5.5	5.3	4.8	7.2	6.65	7.0	6.1		
3.....			5.5	5.5	5.3	4.8	7.2	6.7	7.0	6.1		
4.....			5.5	5.5	5.2	4.8	7.1	6.65	6.9	6.1		
5.....			5.5	5.5	5.2	4.8	7.1	6.6	6.8	6.1		
6.....			5.5	5.5	5.2	4.9	7.1	6.65	6.8	6.1		
7.....			5.5	5.5	5.2	4.9	7.05	6.7	6.85	6.2		
8.....			5.5	5.5	5.2	4.9	6.9	6.7	6.8	6.2		
9.....			5.5	5.5	5.2	4.9	6.8	6.7	6.8	6.2		
10.....			5.5	5.5	5.1	5.0	6.95	6.7	6.8	6.3		
11.....			5.45	5.5	5.1	5.0	7.1	6.8	6.7	6.3		
12.....			5.4	5.5	5.1	5.1	7.0	6.8	6.7	6.3		
13.....			5.4	5.5	5.1	5.25	7.0	6.8	6.6	6.3		
14.....			5.4	5.5	5.1	5.3	6.9	6.8	6.6	6.3		
15.....			5.4	5.5	5.0	5.6	6.8	6.8	6.6	6.3		
16.....			5.4	5.5	5.0	5.7	6.85	6.8	6.5	6.3		
17.....			5.4	5.5	5.0	5.8	6.9	6.8	6.5	6.3		
18.....			5.4	5.4	5.0	5.9	6.8	6.8	6.45	6.4		
19.....			5.4	5.4	5.0	6.0	6.8	6.8	6.45	6.4		
20.....			5.4	5.4	5.0	6.2	6.75	6.8	6.4	6.4		
21.....			5.5	5.4	4.9	6.3	6.7	6.8	6.4	6.3		
22.....			5.5	5.4	4.9	6.4	6.8	6.8	6.4	6.3		
23.....			5.5	5.4	4.9	6.5	6.8	6.8	6.3	6.2		
24.....		5.55	5.5	5.4	4.9	6.6	6.8	6.85	6.3	6.2		
25.....		5.6	5.5	5.4	4.9	6.7	6.8	6.9	6.2	6.1		
26.....		5.55	5.5	5.4	4.8	6.8	6.8	6.9	6.2			
27.....		5.5	5.5	5.3	4.8	6.9	6.7	7.05	6.1			
28.....		5.5	5.5	5.3	4.8	6.9	6.7	6.9	6.1			
29.....		5.6	5.5	5.3		6.9	6.65	7.0	6.1			
30.....		5.5	5.5	5.3		7.0	6.6	7.0	6.1			
31.....			5.5	5.3		7.1		7.0				

**WEST BRANCH OF WOLF RIVER AT NEOPIT, WIS.**

**Location.**—At the dam and power plant at Neopit, Wis., a station of the Wisconsin Northern Railroad, 20 miles north of Shawano.

**Records available.**—January 25, 1911, to September 30, 1914. Records published also in U. S. Geol. Survey Water-Supply Papers 304 and 324.

**Drainage area.**—108 square miles.

**Gages.**—Vertical staff, head and tail race gages.

**Determination of flow.**—An attempt to measure the flow by current meter measurements made a short distance below the dam proved unsatisfactory, and it was decided to rate the turbine and spillway. The power is developed by means of a timber dam about 14 feet high, which backs the water upstream for a considerable distance and forms a service reservoir. The spillway is a rectangular opening about 13 feet wide, which is closed by means of stop planks. Little water leaks through the dam, but considerable passes through the planks when all are in place. The power house is at the dam and is equipped with a 35-inch Leffel-Sampson turbine, belted to a 60-kilowatt generator which is used chiefly for lighting. The turbine takes water from the service reservoir through a rectangular flume, which is 9 feet wide by 6 feet deep, and is lined with smooth planks. The turbine was rated by means of current-meter measurements in the flume. The spillway and leakage through the boards were rated by measurements in the sluiceway. Gages were placed in the pond and below the dam to show the head on the turbine. Readings of the head gage, tail gage, voltage, amperage, and number of planks removed from the spillway, were recorded seven times each day: at 6:00, 7:00, and 10:00 a. m., 12:00 m., 3:00, 6:00, and 10:00 p. m. These readings were then weighted in accordance with the elapsed interval.

**Accuracy.**—Discharge measurements made at this station indicate that the records were being carefully taken and that the method of computation gave results well within 10 per cent.

**Cooperation.**—Station established at the request of the U. S. Indian Service, as Neopit is on the Menominee Indian Reservation.

*Daily discharge, in second-feet, of West Branch of Wolf River at Neopit, Wis.,  
for the years ending Sept. 30, 1911-1914.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1911</b>												
1					60	64	106	99	56	43	75	70
2					60	60	79	65	230	95	80	88
3					60	75	97	137	62	91	77	61
4					60	63	99	100	31	62	80	83
5					60	70	97	91	116	100	61	105
6					60	74	91	75	121	99	60	81
7					60	69	81	54	87	70	139	101
8					60	72	95	133	70	139	143	108
9					60	102	70	102	73	97	94	69
10					60	96	103	90	115	91	108	113
11					60	78	85	409	27	61	45	94
12					60	70	89	201	59	65	92	51
13					60	61	95	87	59	112	94	89
14					60	135	106	19	63	50	81	156
15					60	70	117	132	79	92	92	119
16					60	56	77	153	70	102	70	134
17					60	89	102	135	66	111	63	133
18					60	117	97	114	35	63	79	164
19					57	89	102	94	67	107	126	201
20					62	103	264	107	42	84	111	128
21					60	92	108	107	42	48	96	89
22					60	55	239	124	80	67	77	144
23					63	78	59	116	39	90	73	112
24					56	110	61	126	44	97	68	111
25				60	65	101	116	101	109	93	70	121
26				60	58	79	96	100	52	87	93	77
27				60	64	93	76	94	51	61	60	131
28				60	57	123	73	87	97	99	76	97
29				60		118	157	104	61	79	65	141
30				60		121	87	26	108	56	78	148
31				60		114		64		99	85	
<b>1911-12</b>												
1	144	134	169	147	135	107	128	141	138	124	70	
2	108	156	171	140	166	141	128	129	133	122	80	
3	111	144	147	139	122	113	123	152	144	112	130	
4	200	150	133	135	155	91	165	229	160	167	120	
5	183	157	133	137	135	130	169	244	129	61	115	
6	442	174	138	93	150	101	212	217	140	123	122	
7	395	199	180	67	149	91	211	211	171	222	149	
8	247	145	162	147	98	84	172	186	167	61	208	
9	176	175	156	109	115	86	196	149	127	145	313	
10	203	202	267	109	108	134	189	169	156	158	429	
11	171	207	209	135	146	98	216	187	167	134	345	
12	139	190	223	111	124	82	236	182	185	131	182	
13	106	159	206	111	147	94	141	162	150	148	214	
14	222	135	198	89	123	115	205	188	137	160	217	
15	155	210	163	99	128	111	208	221	90	117	170	
16	229	136	158	100	144	95	217	157	137	123	141	
17	225	140	142	89	134	135	214	182	118	142	174	
18	196	146	151	106	162	84	62	184	147	140		
19	180	185	145	100	163	123	137	181	156	87		
20	168	202	106	104	167	92	180	158	130	126		
21	136	136	129	138	155	79	235	158	99	118		
22	155	156	166	133	114	112	198	234	95	101		
23	178	170	178	99	123	106	233	164	115	352		
24	205	167	148	133	112	131	147	131	152	999		
25	210	156	120	141	141	108	84	153	95	649		
26	161	129	125	118	121	108	188	141	105	217		
27	178	166	124	136	98	133	206	185	114	141		
28	156	164	126	147	114	143	322	202	180	183		
29	162	138	131	125	108	103	115	179	90	136		
30	154	137	146	169		150	165	153	113	73		
31	149		140	124		166		180		253		



*Daily discharge, in second-feet, of West Branch of Wolf River at Neopit, Wis., for the years ending Sept. 30, 1911-1914.—(Concluded).*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1912-13</b>												
1		142	175	159	111	107	228	163	178	170	147	127
2		139	208	113	126	112	209	151	210	139	138	122
3		119	208	136	120	122	217	81	197	187	117	286
4		141	197	125	106	105	245	246	179	171	133	130
5		148	183	96	107	117	229	189	161	180	136	115
6		148	190	120	106	108	191	224	221	177	131	120
7		146	129	117	103	116	155	113	144	184	130	168
8		143	122	109	102	114	172	252	116	153	130	178
9		85	130	109	89	133	188	229	104	191	142	119
10		149	149	139	109	109	151	146	167	128	147	107
11		161	142	129	107	129	176	210	201	126	103	106
12		160	130	128	108	115	158	117	124	259	85	112
13		170	129	113	107	128	190	194	125	201	136	158
14		170	134	112	108	207	179	141	303	135	135	159
15		165	129	128	107	184	205	260	349	139	209	163
16		162	146	120	116	195	197	298	378	141	159	159
17		95	149	130	116	136	204	259	180	172	174	157
18		115	147	114	106	160	235	160	156	163	145	157
19		110	119	143	107	148	199	200	275	154	159	155
20		83	135	119	104	162	150	145	255	127	139	158
21		75	145	112	103	156	121	165	196	135	138	-----
22		82	129	139	95	141	165	220	173	137	134	-----
23		117	113	108	101	177	140	142	127	137	127	-----
24		159	157	120	110	149	154	170	165	134	137	-----
25		149	134	120	107	135	149	166	197	132	122	-----
26		121	151	126	114	137	209	101	202	134	111	-----
27		127	123	104	104	131	64	260	204	223	117	-----
28		112	118	104	132	136	256	191	165	267	120	228
29		131	179	114	-----	142	78	242	178	191	123	138
30		175	118	115	-----	193	85	243	170	147	135	178
31	137	-----	104	115	-----	184	-----	211	-----	117	110	-----
<b>1913-14</b>												
1	83	179	131	88	-----	94	142	157	94	206	89	189
2	136	63	205	94	-----	53	111	138	94	113	105	443
3	135	82	152	95	-----	78	162	160	194	137	48	111
4	102	135	86	93	-----	70	103	154	344	128	37	172
5	216	148	72	98	-----	83	139	79	219	115	80	107
6	133	265	66	90	-----	94	115	93	199	103	104	89
7	98	120	52	96	-----	108	143	150	265	64	45	99
8	79	161	64	95	74	90	111	86	152	122	104	93
9	180	141	78	95	88	104	107	128	140	124	121	74
10	208	39	78	94	89	105	145	128	165	87	44	51
11	171	74	186	86	98	99	105	130	140	104	88	59
12	186	164	110	93	96	99	134	132	113	193	82	63
13	143	99	110	95	87	104	55	145	129	101	114	34
14	199	142	117	92	87	100	136	180	97	137	99	70
15	87	111	119	90	70	111	157	139	131	156	130	292
16	121	149	130	88	77	113	106	124	94	114	120	44
17	137	81	171	91	80	109	108	109	121	53	39	46
18	134	105	83	84	80	98	181	126	83	119	142	43
19	127	177	62	98	82	79	106	87	129	90	137	39
20	140	125	69	102	82	108	138	143	155	146	101	111
21	139	209	72	102	83	97	118	147	146	72	134	77
22	136	188	77	99	78	89	129	224	78	133	121	47
23	130	73	81	98	85	91	176	168	116	124	116	46
24	135	248	106	97	78	97	128	182	150	83	91	68
25	136	80	132	80	77	98	283	179	67	91	95	93
26	188	109	130	87	78	98	156	125	117	108	84	49
27	199	142	130	91	82	97	184	156	224	80	125	29
28	138	128	109	94	83	101	278	127	206	98	93	43
29	188	133	102	106	-----	145	380	157	171	87	94	41
30	140	101	70	106	-----	120	143	135	147	86	17	43
31	168	-----	72	105	-----	100	-----	113	-----	85	187	-----

NOTE:—Sept. 21-27, 1913, estimated mean: 150 second-feet.  
Mean discharge Feb. 1-7, 1913, estimated mean: 150 second-feet.

Monthly discharge of West Branch of Wolf River at Neopit, Wis.,  
for the years ending Sept. 30, 1911-1914.

[Drainage area, 108 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
1911						
January (25-31).....	60	60	60.	0.556	0.14	B
February.....	65	56	60.1	.556	.58	B
March.....	135	55	87.	.806	.93	B
April.....	264	59	104.	.963	1.07	B
May.....	409	19	111.	1.03	1.19	B
June.....	230	27	73.7	.682	.76	B
July.....	139	43	84.2	.780	.90	B
August.....	143	60	84.2	.780	.90	B
September.....	201	51	111.	1.03	1.15	B
1911-12						
October.....	442	108	189.	1.75	2.02	B
November.....	210	129	162.	1.50	1.67	B
December.....	267	106	158.	1.46	1.68	B
January.....	169	67	120.	1.11	1.28	B
February.....	167	98	133.	1.23	1.33	B
March.....	166	79	111.	1.03	1.19	B
April.....	322	62	180.	1.67	1.86	B
May.....	244	129	178.	1.65	1.90	B
June.....	185	90	135.	1.25	1.40	B
July.....	999	61	188.	1.74	2.01	B
August (1-17).....	429	70	187.	1.73	1.09	B
1912-13						
November.....	175	75	133.	1.23	1.37	B
December.....	208	104	146.	1.35	1.56	B
January.....	159	96	121.	1.12	1.29	B
February.....	132	89	108.	1.00	1.04	B
March.....	207	105	142.	1.31	1.51	B
April.....	256	64	177.	1.64	1.83	B
May.....	298	81	190.	1.76	2.03	B
June.....	378	104	193.	1.79	2.00	B
July.....	267	117	163.	1.51	1.74	C
August.....	209	85	134.	1.24	1.43	-----
September.....	286	106	152.	1.41	1.57	C
1913-14						
October.....	216	79	146.	1.35	1.56	B
November.....	265	39	132.	1.22	1.36	B
December.....	205	52	104.	.963	1.11	B
January.....	106	80	94.3	.873	1.01	B
February.....			83.2	.770	.80	B
March.....	145	53	97.8	.906	1.04	B
April.....	380	55	149.	1.38	1.54	B
May.....	224	79	139.	1.29	1.49	B
June.....	344	67	149.	1.38	1.54	B
July.....	206	53	112.	1.04	1.20	B
August.....	187	17	96.3	.892	1.03	B
September.....	443	29	92.2	.854	.95	C
The year.....	443	17	116.	1.07	14.63	-----

LITTLE WOLF RIVER AT ROYALTON, WIS.

**Location.**—At highway bridge in the town of Royalton, Wis., about 4 miles above mouth of river.

**Records available.**—January 13 to September 30, 1914.

**Drainage area.**—485 square miles.

**Gage.**—Chain gage fastened to upstream side of highway bridge. Read twice daily, morning and evening, to half tenths; limits of use: hundredths below 2.0 feet, half-tenths between 2.0 and 3.0 feet, and tenths above 3.0 feet. This gage is so fastened to a cantilever arm that it is immediately upstream from the crest of a very decided rapids.

**Control.**—Channel at the gage section, heavy gravel and rock; permanent; at the measuring section, fine, smooth gravel.

**Discharge measurements.**—Made from a cable, about 500 feet upstream from gage.

**Winter flow.**—Owing to the presence of heavy rapids at the gage, ice rarely forms except during extremely cold weather, and then the effect on the gage height is small; discharge during such periods determined from discharge measurements made through the ice, at the cable section.

**Regulation.**—The several power plants above the station have little storage, so that their operation has apparently no effect on the flow, which is believed to be nearly natural.

**Accuracy.**—Rating curve well-defined; the records good.

*Discharge measurements of Little Wolf River at Royalton, Wis., during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
Jan. 13 (a).....	Canfield and Beckman.....	1.60	191
Feb. 17 (b).....	H. C. Beckman.....	1.70	163
Apr. 24.....	H. C. Beckman.....	1.98	419
May 1.....	H. C. Beckman.....	3.07	1,130
May 21.....	H. C. Beckman.....	1.74	362
June 7.....	W. G. Hoyt.....	7.05	4,840
June 10.....	H. C. Beckman.....	4.56	2,280
Aug. 17 (c).....	M. F. Rather.....	1.42	186

(a) Measurement made through ice one-fourth mile above gage; small amount of ice at control.

(b) Considerable ice at control.

(c) Measurement made by wading at cable section.

*Daily gage height, in feet, of Little Wolf River at Royalton, Wis., for the year ending Sept. 30, 1914.*

[J. C. Jenson, observer]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1.....					1.68	1.92	2.1	3.3	1.88	3.0	1.55	1.60
2.....					1.71	2.1	2.25	3.0	1.72	2.7	1.59	1.60
3.....					1.76	2.0	2.05	2.7	1.78	2.2	1.55	1.52
4.....					1.72	2.0	1.95	2.6	3.8	2.3	1.49	1.55
5.....					1.72	2.2	1.85	2.45	4.8	2.5	1.55	1.65
6.....					1.70	2.3	1.90	2.35	5.4	2.5	1.49	1.62
7.....					1.70	2.05	1.82	2.3	7.2	2.2	1.45	1.52
8.....					1.60	1.95	1.92	2.1	7.0	2.2	1.39	1.60
9.....					1.68	2.05	1.82	1.98	5.8	1.9	1.42	1.52
10.....					1.86	2.1	1.85	1.90	4.4	1.8	1.37	1.45
11.....					1.96	2.05	1.75	1.92	3.6	1.85	1.42	1.50
12.....					1.92	2.1	1.68	1.95	3.1	1.82	1.45	1.65
13.....				1.60	1.92	2.4	1.72	1.90	2.5	1.90	1.52	1.48
14.....				1.68	1.96	2.25	1.72	1.92	2.4	1.98	1.52	1.82
15.....				1.66	1.86	2.65	1.78	1.88	2.3	2.05	1.39	2.2
16.....				1.66	1.90	2.6	1.88	1.88	2.05	1.89	1.39	2.1
17.....				1.68	1.88	2.5	1.88	1.82	2.1	1.85	1.38	2.8
18.....				1.69	1.92	2.55	1.90	1.75	2.1	1.79	1.70	2.6
19.....				1.84	1.90	2.1	1.90	1.62	2.05	1.75	1.85	2.0
20.....				1.72	1.86	1.72	2.3	1.65	2.2	1.85	1.98	2.05
21.....				1.75	1.92	1.78	2.3	1.90	2.2	1.69	1.92	2.05
22.....				1.70	1.73	1.70	2.2	2.6	2.1	1.59	1.78	1.98
23.....				1.69	1.92	2.4	2.1	2.9	2.05	1.65	1.68	1.98
24.....				1.88	1.92	1.60	2.05	2.9	2.3	1.75	1.65	1.68
25.....				1.70	1.92	1.65	2.4	2.6	2.1	1.65	1.62	1.65
26.....				1.65	1.98	1.85	2.5	2.5	2.1	1.67	1.60	1.58
27.....				1.75	1.98	1.78	2.7	2.4	2.2	1.59	1.58	1.42
28.....				1.78	2.05	1.85	2.65	2.3	2.7	1.59	1.58	1.72
29.....				2.1		1.98	3.4	2.3	3.1	1.55	1.58	1.58
30.....				2.05		2.2	3.2	2.2	2.8	1.62	1.48	1.50
31.....				1.92		2.1		2.0		1.59	1.52	

**NOTE:**—Discharge relation affected by ice about Jan. 13 to Mar. 24.

Daily discharge, in second-feet, of Little Wolf River at Royalton, Wis.,  
for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1							509	1,300	392	1,080	244	264
2							596	1,080	316	878	260	264
3							482	878	344	566	244	233
4							428	813	1,680	625	222	244
5							378	718	2,520	749	244	286
6							402	656	3,090	749	222	273
7							363	625	5,000	566	208	233
8							412	509	4,780	566	187	264
9							363	444	3,490	353	197	233
10							378	402	2,160	353	181	208
11							330	412	1,520	378	197	225
12							298	428	1,150	363	208	286
13							316	402	749	402	233	218
14							316	412	686	444	233	363
15							344	392	625	482	187	566
16							392	392	482	397	187	509
17							392	363	509	378	184	944
18							402	330	509	348	307	813
19							402	273	482	330	378	454
20							625	286	566	378	444	482
21							625	402	566	303	412	482
22							566	813	509	260	244	444
23							509	1,010	482	286	298	444
24						264	482	1,010	625	330	286	298
25						286	686	813	509	286	273	286
26						378	749	749	509	294	264	256
27						344	878	686	566	260	256	197
28						378	846	625	878	260	256	316
29						444	1,380	625	1,150	244	256	256
30						566	1,220	566	944	273	218	225
31						509		454		260	233	

NOTE:—Daily discharge computed from a rating curve fairly well defined between 225 and 878 second-feet (gauge heights 1.5 and 2.7 feet) and well defined between 944 and 5,350 second-feet (gauge heights, 2.8 and 7.5 feet).  
Discharge estimates, because of ice, from gauge heights, observers' notes, discharge measurements, and climatologic records, as follows: Jan. 13-20, 210 second-feet; Jan. 21-31, 230 second-feet; Feb. 1-10, 175 second-feet; Feb. 11-20, 165 second-feet; Feb. 21-28, 170 second-feet; Mar. 1-10, 245 second-feet; and Mar. 11-24, 320 second-feet.

Monthly discharge of Little Wolf River at Royalton, Wis.,  
for the year ending Sept. 30, 1914.

[Drainage area, 485 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
January (13-31)			222	0.458	0.32	C
February			170	.351	.37	C
March			315	.649	.75	C
April	1,380	298	862	1.78	1.99	B
May	1,300	273	609	1.26	1.45	B
June	5,000	316	1,260	2.60	2.90	B
July	1,080	244	434	.895	1.03	B
August	444	181	254	.524	.60	B
September	944	197	352	.726	.81	B

**LITTLE WOLF RIVER NEAR NORTHPORT, WIS.**

**Location.**—In the southeastern part of sec. 8, T. 22 N., R. 14 E., at the highway bridge, known as Phillips bridge, about 3 miles southwest of Northport, Wis.

**Records available.**—October 13, 1907, to December 31, 1910. Records published also in U. S. Geol. Survey Water-Supply Papers 244, 264, and 284.

**Drainage area.**—460 square miles.

**Gage.**—Vertical staff gage attached to the downstream side of the south abutment of the bridge.

**Control.**—The bed of the stream consists of gravel and boulders.

**Discharge measurements.**—Made from the highway bridge.

**Winter flow.**—Discharge relation affected by ice.

**Cooperation.**—Station established and records furnished by D. W. Mead, consulting engineer, Madison, Wis.

*Discharge measurements of Little Wolf River near Northport, Wis., during the year ending Sept. 30, 1908.*

Date	Made by	Gage height	Discharge
		Feet	Sec.-feet
Oct. 13.....	V. H. Reineking.....	1.40	214
Oct. 16.....	H. J. Hunt.....	1.54	215
Oct. 27.....	H. J. Hunt.....	1.45	217
Mar. 20 (a).....	V. H. Reineking.....	5.00	930
Mar. 21 (a).....	V. H. Reineking.....	4.20	617
Mar. 22 (a).....	V. H. Reineking.....	4.90	869
Mar. 23 (a).....	V. H. Reineking.....	4.90	881
Mar. 24.....	V. H. Reineking.....	4.30	805

(a) River partly frozen over.

*Daily gage height, in feet, of Little Wolf River near Northport, Wis.,  
for the years ending Sept. 30, 1908-1911.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
<b>1907-8</b>												
1		1.4	2.0	2.2	2.3	2.8	3.2	4.6	2.5	1.5	2.5	1.3
2		1.6	2.1	2.4	2.1	2.9	2.9	4.3	2.2	1.4	1.3	1.2
3		1.6	1.8	2.5	2.1	2.7	2.8	4.0	2.2	1.5	1.4	1.3
4		1.7	1.8	2.4	2.1	2.7	2.9	3.8	2.0	1.4	1.4	1.3
5		1.5	2.0	2.0	2.2	2.8	2.7	3.5	1.7	1.8	1.3	1.2
6		1.9	1.7	1.9	2.2	3.0	3.2	3.5	1.6	3.5	1.4	1.2
7		1.3	1.9	1.8	2.3	3.4	3.1	3.4	1.5	4.4	1.3	1.2
8		1.5	1.8	1.6	2.4	3.9	3.0	3.3	1.7	4.7	1.4	1.1
9		1.8	2.4	1.7	2.4	3.7	3.1	3.0	1.7	5.3	1.4	1.1
10		1.4	3.0	1.7	2.4	4.5	3.0	2.8	1.6	4.7	1.3	1.1
11		2.0	3.0	1.6	2.5	5.0	3.0	2.8	1.7	4.0	1.3	1.1
12		1.4	3.1	2.0	2.6	5.7	3.0	2.7	1.8	2.8	1.3	1.1
13	1.5	1.6	2.8	2.0	2.7	6.6	3.2	2.8	1.8	3.1	1.3	1.0
14	2.0	1.6	2.7	1.9	2.7	6.4	3.0	2.9	1.6	3.0	1.3	1.0
15	1.4	1.5	1.9	2.2	3.1	6.1	3.0	3.4	1.5	2.6	1.2	1.1
16	1.4	1.7	2.0	2.1	3.2	5.8	3.0	3.5	1.4	2.5	1.3	1.1
17	1.5	1.5	1.9	2.0	3.1	5.9	3.0	2.7	1.4	2.4	1.5	1.0
18	1.4	1.5	1.8	2.1	3.0	5.6	2.9	2.4	1.4	2.0	1.4	1.0
19	1.4	1.6	1.7	2.0	2.7	5.3	2.7	3.0	1.4	2.8	1.4	1.0
20	1.4	1.4	1.8	2.0	2.7	5.0	2.5	3.0	1.3	2.7	1.4	1.1
21	3.2	1.7	2.0	2.3	2.6	4.1	3.0	2.8	1.3	2.9	1.4	1.1
22	1.3	1.7	2.6	2.2	2.7	3.8	2.8	2.7	1.3	1.6	1.4	1.1
23	1.4	1.8	2.7	1.9	2.7	4.9	2.5	3.0	1.5	1.7	1.4	1.1
24	1.3	2.0	2.6	1.8	2.7	4.8	2.6	2.8	1.6	1.6	1.3	1.1
25	1.3	1.7	1.9	1.8	2.8	3.8	3.0	3.0	1.4	1.5	1.3	1.1
26	1.5	1.8	1.8	2.0	3.0	3.5	2.9	2.8	1.3	2.5	1.3	1.1
27	1.3	1.9	1.7	2.1	2.7	3.3	4.6	2.7	1.5	2.5	1.2	1.1
28	1.6	1.8	1.8	2.1	2.6	3.2	4.9	2.7	1.3	2.4	1.2	1.1
29	1.4	1.8	1.9	2.1	2.5	3.2	5.0	2.6	1.4	2.5	1.2	1.2
30	1.3	1.7	2.0	2.1		3.4	4.9	3.0	1.3	2.4	1.1	1.3
31	1.5		2.0	2.2		3.2		2.6		2.4	1.1	
<b>1908-9</b>												
1	1.5	1.2	1.1	2.0	2.4	2.7	4.7	3.6	3.3	1.7	1.2	1.4
2	1.3	1.3	2.1	2.0	2.4	2.7	4.3	3.7	3.6	1.4	1.3	1.3
3	1.4	1.2	2.4	2.0	2.5	2.8	3.3	4.0	3.4	1.4	1.3	1.3
4	1.3	1.4	2.2	2.0	2.5	3.1	3.7	4.2	3.3	1.5	1.3	1.4
5	1.4	1.2	2.2	1.9	2.6	3.0	3.3	3.9	3.0	1.5	1.3	1.3
6	1.2	1.1	2.3	1.9	3.0	2.9	3.3	4.0	3.3	1.4	1.5	1.2
7	1.2	1.2	2.1	2.0	2.5	2.8	3.6	4.2	4.5	1.5	1.3	1.2
8	1.2	1.2	2.0	2.0	2.4	3.2	3.9	4.2	5.1	1.5	1.4	1.3
9	1.2	1.1	1.9	1.9	2.5	3.4	4.1	4.0	5.0	1.4	1.2	1.3
10	1.3	1.7	2.0	2.0	2.6	3.0	3.9	4.2	4.9	1.4	1.3	1.2
11	1.1	1.5	1.9	2.0	2.6	2.8	3.4	4.0	4.4	1.5	1.3	1.3
12	1.1	1.2	1.9	2.1	2.5	3.0	3.2	3.7	4.7	1.4	1.4	1.3
13	1.4	1.2	1.9	2.1	2.5	3.5	3.4	3.4	3.6	1.6	1.5	1.5
14	1.3	1.1	2.0	2.2	2.5	3.0	3.3	3.2	3.7	1.7	1.6	1.6
15	1.3	1.7	2.0	2.2	2.6	2.8	3.4	3.5	3.8	1.5	1.8	2.4
16	1.2	1.8	2.0	2.2	3.2	2.9	3.6	4.0	3.6	1.3	1.5	1.4
17	1.1	1.8	2.0	2.3	2.9	3.0	3.5	4.2	3.8	1.3	1.4	1.6
18	1.1	1.7	2.1	2.2	2.5	2.8	3.5	4.4	3.2	1.1	1.4	1.4
19	1.1	1.4	2.0	2.2	2.5	2.9	3.7	4.1	3.2	1.2	1.4	1.4
20	1.1	1.1	2.1	2.2	2.8	3.5	3.5	3.7	3.2	1.2	1.3	1.3
21	1.5	1.3	2.1	2.3	2.7	3.5	3.6	3.9	3.4	1.2	1.3	1.3
22	1.1	1.1	2.0	2.4	2.6	3.1	3.5	3.6	2.2	1.1	1.4	1.3
23	1.1	1.2	2.0	2.5	3.0	3.4	3.4	3.5	2.3	1.2	1.3	1.4
24	1.1	1.2	2.0	2.9	2.6	3.7	3.6	3.4	2.2	1.3	1.3	1.4
25	1.2	1.3	2.0	3.3	2.7	4.0	3.3	3.3	2.7	1.2	1.3	1.3
26	1.8	2.1	2.0	3.4	2.7	4.9	3.2	3.4	3.1	1.2	1.4	1.4
27	1.7	2.0	2.0	2.9	3.2	4.7	2.9	3.5	3.3	1.3	1.3	1.2
28	1.4	1.4	1.9	2.8	3.0	4.4	3.0	3.8	3.2	1.2	1.4	1.2
29	1.2	1.9	2.0	2.7		4.1	3.6	3.6	3.2	1.2	1.5	1.2
30	1.6	1.8	2.0	2.4		4.5	3.4	3.6	1.8	1.2	1.4	1.2
31	1.4		2.0	2.5		4.3		3.6		1.3	1.5	

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1909-10												
1	1.2	1.4	1.8	2.4	2.6	2.7	2.2	3.7	1.8	1.3	1.2	1.6
2	1.3	1.4	2.0	2.4	2.6	2.7	2.3	3.6	1.5	1.3	1.2	1.6
3	1.3	1.5	2.1	2.5	2.6	2.7	2.2	3.5	1.4	1.2	1.2	1.6
4	1.2	1.4	2.2	2.5	2.5	2.8	1.9	3.3	1.5	1.2	1.1	1.6
5	1.2	1.4	2.9	2.5	2.6	2.8	2.0	3.3	1.5	1.2	1.1	1.6
6	1.2	1.4	3.0	2.5	2.6	3.0	2.3	3.2	1.8	1.2	1.1	1.7
7	1.2	1.5	2.8	2.5	2.6	2.7	2.4	2.8	1.8	1.3	1.2	1.8
8	1.2	1.4	2.9	2.5	2.5	3.3	2.8	2.8	1.9	1.2	1.1	1.7
9	1.2	1.4	3.2	2.5	2.6	3.2	2.5	2.5	1.5	1.2	1.1	1.7
10	1.2	1.3	3.3	2.5	2.6	3.3	2.6	2.3	1.6	1.2	1.2	1.6
11	1.3	1.4		2.6	2.5	3.0	2.4	1.8	1.5	1.1	1.2	1.5
12	1.4	1.4	2.9	2.6	2.5	3.0	2.2	1.6	1.5	1.2	1.1	1.7
13	1.2	1.4	3.0	2.5	2.6	4.8	1.8	1.6	1.5	1.2	1.2	2.0
14	1.3	2.4	2.8	2.6	2.6	4.7	2.4	1.5	1.5	1.2	1.2	2.4
15	1.3	2.6	2.7	2.6	2.7	4.7	1.8	1.5	1.4	1.2	1.3	2.6
16	1.4	2.0	2.7		2.6	4.8	2.0	1.5	1.4	1.2	1.3	1.8
17	1.3	1.8	2.7		2.6	4.7	1.9	1.6	1.4	1.2	1.3	1.7
18	1.3	1.8	2.6		2.5	4.5	2.1	1.8	1.4	1.2	1.2	1.7
19	1.4	1.4	3.0		2.5	4.2	2.2	1.8	1.4	1.1	1.3	1.7
20	2.3	2.0	2.6		2.7	3.5	2.5	2.0	1.4	1.1	1.2	1.6
21	1.4	1.7	2.5		2.6	3.4	2.5	1.9	1.3	1.1	1.2	1.5
22	1.4	1.8	2.5		2.6	3.2	2.4	1.6	1.3	1.2	1.2	1.5
23	1.3	1.7	2.4	2.7	2.6	3.0	2.6	1.7	1.3	1.1	1.4	1.5
24	1.3	1.7	2.4	2.6	2.6	3.2	3.7	1.9	1.3	1.3	1.6	1.6
25	1.2	1.8	2.4	2.6	2.6	3.2	4.4	1.7	1.3	1.3	1.5	1.6
26	1.3	1.9	2.6	2.6	2.7	3.1	4.7	1.7	1.3	1.1	1.4	1.7
27	1.3	1.8	2.5	2.6	3.0	2.8	4.8	1.6	1.3	1.2	1.5	1.9
28	1.3	1.8	2.5	2.9	2.5	2.7	4.5	1.5	1.2	1.2	1.5	2.1
29	1.4	1.7	2.6	2.7		2.6	4.2	1.7	1.2	1.3	1.4	1.6
30	1.3	1.8	2.5	2.5		2.6	4.2	1.7	1.3	1.2	1.6	1.7
31	1.3		2.5	2.7		2.5		1.6		1.2	1.7	
1910-11												
1	1.6	1.4	1.5									
2	1.6	1.4	1.9									
3	1.4	1.4	1.8									
4	1.6	1.3	1.9									
5	1.7	1.3	1.8									
6	1.7	1.5	1.9									
7	1.5	1.3	1.8									
8	1.4	1.4	2.0									
9	1.4	1.3	1.9									
10	1.3	1.4	1.9									

EAST BRANCH OF FOND DU LAC RIVER AT FOND DU LAC, WIS.

**Location.**—At the highway bridge on Division Street, 4 blocks from the Chicago & Northwestern Railway station.

**Records available.**—May 20 to July 25, 1903. Records published also in U. S. Geol. Survey Water-Supply Paper 97.

**Drainage area.**—Not measured.

**Gage.**—Vertical staff gage fastened to left abutment of the single-span highway bridge; read twice daily to tenths.

**Control.**—Bed of river consists of loam.

**Discharge measurements.**—Made from the bridge to which the gage is attached.

*Discharge measurements of East Branch of Fond du Lac River at Fond du Lac, Wis., during the year ending Sept. 30, 1903.*

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
Apr. 17.....	L. R. Stockman.....		61
May 12.....	L. R. Stockman.....	1.2	37

*Daily gage height, in feet, of East Branch of Fond du Lac River at Fond du Lac, Wis., for the year ending Sept. 30, 1903.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1.....									1.55	1.0		
2.....									1.4	.95		
3.....									1.3	.8		
4.....									1.3	.8		
5.....									1.3	.8		
6.....									1.3	.8		
7.....									1.3	.8		
8.....									1.35	.8		
9.....									1.3	.8		
10.....									1.25	.8		
11.....									1.35	.8		
12.....									1.2	.8		
13.....									1.2	.85		
14.....									1.2	.9		
15.....									1.25	1.0		
16.....									1.45	1.05		
17.....									1.2	.8		
18.....									1.05	.9		
19.....									1.15	1.0		
20.....								1.1	1.0	1.0		
21.....								1.35	.95	.9		
22.....								1.15	.9	1.0		
23.....								.9	1.0	1.0		
24.....								1.25	.95	.9		
25.....								1.35	.9	.8		
26.....								1.7	.8			
27.....								1.7	.8			
28.....								1.85	.8			
29.....								1.65	.8			
30.....								1.7	.7			
31.....								1.5				



WEST BRANCH OF FOND DU LAC RIVER AT FOND DU LAC, WIS.

**Location.**—At the Chicago, Milwaukee & St. Paul Railway bridge, at Fond du Lac, Wis.

**Records available.**—May 20, to July 31, 1903. Records also published in U. S. Geol. Survey Water-Supply Paper 97.

**Drainage area.**—Not measured.

**Gage.**—Vertical staff gage, fastened to a pile of the railroad bridge.

**Control.**—The bed of the river consists of sand and gravel.

**Discharge measurements.**—Made from the single-span highway bridge at Grove Street, about 150 feet above the station.

*Daily gage height, in feet, of West Branch of Fond du Lac River at Fond du Lac, Wis., for the year ending Sept. 30, 1903.*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1									21.5	13.7		
2									19.3	13.6		
3									18.65	13.3		
4									18.25	13.1		
5									17.95	13.1		
6									17.55	13.1		
7									17.1	13.0		
8									17.1	12.9		
9									17.0	12.8		
10									17.0	13.3		
11									16.5	13.4		
12									16.2	13.2		
13									16.0	13.2		
14									16.0	13.1		
15									15.8	13.0		
16									15.65	12.9		
17									15.55	12.8		
18									14.0	13.0		
19									14.25	13.0		
20								11.5	14.6	13.1		
21								11.6	15.0	13.1		
22								11.7	15.1	13.5		
23								12.25	15.8	13.0		
24								13.0	16.2	13.0		
25								14.0	16.3	12.9		
26								15.85	15.9	12.7		
27								28.55	14.5	12.6		
28								25.95	14.2	12.4		
29								23.5	14.0	12.1		
30								23.5	14.0	11.9		
31								21.85		11.6		

MILWAUKEE RIVER NEAR MILWAUKEE, WIS.

**Location.**—Immediately above the remains of quarry; about half a mile below the concrete county bridge and 1 mile above Mineral Spring Road; about 4 miles above the mouth of river.

**Records available.**—April 30 to December 31, 1914.

**Drainage area.**—661 square miles.

**Gage.**—Chain gage fastened to cantilever arm, supported by two trees on the left bank of the river, immediately back of the home of Johanna Liebl; read twice daily, morning and evening, to quarter tenths; limits of use: hundredths below 1.5 feet, half-tenths between 1.5 and 2.5 feet, and tenths above 2.5 feet.

**Control.**—A rock outcrop, at which there is a fall of approximately 4 feet, immediately below the gage; should be permanent.

**Discharge measurements.**—At low stages made by wading immediately above the gage; at medium and high stages from the lower members of a covered wooden bridge, about 700 feet below the gage; bridge covers an abandoned quarry and the channel beneath, being artificial, affords an excellent measuring section.

**Winter flow.**—Data too meager to determine.

**Regulation.**—No diurnal fluctuation noticed at the gage as resulting from the operation of some power plants.

**Accuracy.**—Rating curve well defined; records good.

*Discharge measurements of Milwaukee River near Milwaukee, Wis., during the year ending Sept. 30, 1914.*

Date	Made by	Gage height	Dis-charge
		Feet	Sec.-feet
Apr. 30.....	G. H. Canfield.....	1.52	433
May 1.....	G. H. Canfield.....	1.46	408
May 25.....	G. H. Canfield.....	1.81	648
May 26.....	G. H. Canfield.....	1.97	807
June 8.....	W. G. Hoyt.....	2.55	1,320
July 21 (a).....	W. G. Hoyt.....	.72	82

(a) Measurement made by wading at a section about 100 feet above gage.

*Daily gage height, in feet, of Milwaukee River near Milwaukee, Wis., for the year ending Sept. 30, 1914.*

[Johanna Liebl, observer.]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1.....								1.6	1.5	1.65	0.72	0.88
2.....								1.48	1.26	1.48	.78	.85
3.....								1.38	1.16	1.40	.78	.85
4.....								1.45	1.20	1.28	.72	.88
5.....								1.7	1.43	1.23	.68	.90
6.....								1.8	2.6	1.08	.68	1.02
7.....								1.7	2.7	1.08	.68	1.02
8.....								1.6	2.6	1.10	.65	1.02
9.....								1.45	2.3	1.06	.62	1.02
10.....								1.4	2.15	1.03	.58	.90
11.....								1.32	1.8	1.00	.58	.88
12.....								1.8	1.6	1.00	.58	.88
13.....								2.1	1.48	.88	.58	.88
14.....								1.8	1.36	.86	.58	2.2
15.....								1.7	1.33	.86	.58	2.5
16.....								1.48	1.20	.86	.65	2.4
17.....								1.38	1.13	.86	.58	2.4
18.....								1.20	.98	.86	.58	2.25
19.....								1.12	.93	.86	.70	2.1
20.....								1.08	.93	.83	.58	1.9
21.....								1.02	2.45	.80	.58	1.5
22.....								1.08	2.8	.72	.82	1.42
23.....								1.02	2.05	.82	.82	1.22
24.....								1.22	2.0	.72	.82	1.18
25.....								1.55	1.9	.72	.85	1.05
26.....								2.0	1.85	.70	.85	1.02
27.....								2.15	1.95	.72	.85	1.02
28.....								1.8	1.6	.78	.80	1.00
29.....								1.7	1.7	.78	.78	1.02
30.....							1.5	1.55	1.7	.85	.78	1.02
31.....								1.45		.78	.75	

Daily discharge, in second-feet, of Milwaukee River near Milwaukee, Wis., for the year ending Sept. 30, 1914.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
1								494	427	532	83	131
2								415	292	415	100	122
3								356	245	367	100	122
4								397	263	302	83	131
5								569	385	278	74	138
6								650	1,360	210	74	184
7								569	1,460	210	74	184
8								494	1,360	218	68	184
9								397	1,090	201	61	184
10								367	952	189	54	138
11								323	650	176	54	131
12								650	494	176	54	131
13								908	415	131	54	131
14								650	345	125	54	997
15								569	328	125	54	1,270
16								415	263	125	68	1,180
17								356	232	125	54	1,180
18								263	168	125	54	1,040
19								227	149	125	78	908
20								210	149	115	54	734
21								184	1,220	105	54	427
22								210	1,560	83	112	379
23								184	864	112	112	273
24								273	820	83	112	254
25								460	734	83	122	197
26								820	692	78	122	184
27								952	777	83	122	184
28								650	494	100	105	176
29								569	569	100	100	184
30							427	460	569	122	100	184
31								397		100	92	

NOTE.—Daily discharge computed from a rating curve well defined between 78 and 1,460 second-feet (gage heights, 0.7 and 2.7 feet).

Monthly discharge of Milwaukee River near Milwaukee, Wis., for the year ending Sept. 30, 1914.

[Drainage area, 661 square miles.]

Month	Discharge in second-feet				Run-off (depth in inches on drainage area)	Accu- racy
	Maximum	Minimum	Mean	Per square mile		
May	952	184	466	0.705	0.81	A
June	1,560	149	644	.974	1.09	A
July	532	78	172	.260	.30	B
August	122	54	80.7	.122	.14	B
September	1,270	122	389	.589	.66	A

**MISCELLANEOUS MEASUREMENTS**

The following miscellaneous measurements have been made in Wisconsin,  
for the year ending September 30, 1914.

**Wisconsin River Basin.**

Date	Stream	Tributary to	Locality	Gage height	Dis-charge
May 22.....	Wisconsin.....	Mississippi.....	Highway bridge, Grand Rapids Wis.	Feet 2.23 (a)	Sec.-feet 4,060
Jan. 7.....	Big Eau Pleine.....	Wisconsin.....	Highway bridge, 2 miles west of Dancy, Wis.	-----	9
Feb. 7.....	Big Eau Pleine.....	Wisconsin.....	Highway bridge, 2 miles west of Dancy, Wis.	-----	45
Aug. 20.....	Mill Creek.....	Wisconsin.....	Immediately below power house and dam of city of Muscoda, sec. 26, T. 9 N., R. 1 W.	-----	44

**Lake Michigan Basin.**

Jan. 7.....	Wolf.....	Fox.....	Immediately above mouth of Embarrass River, a short distance upstream from New London.	-----	840
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**Lake Superior Basin.**

Feb. 23.....	White.....	Bad.....	White River crossing of M. St. P. & S. S. M. Ry.	-----	130
Feb. 24.....	White.....	Bad.....	500 feet below dam of White River Power Co., at Mason, Wis.	-----	145

(a) U. S. Weather Bureau staff gage at Grand Rapids.

## GAZETTEER OF STREAMS

A compilation of the streams in Wisconsin is contained in the following table. In compiling the gazetteer each stream has been carried down to the main body of water to which it may be tributary.

The gazetteer is arranged alphabetically and has been compiled from the following maps:

Atlas of the Wisconsin Geological Survey

Map of Wisconsin showing Geology and Roads, by the Wisconsin Geological and Natural History Survey, 1911

United States Post Route Map

U. S. Geological Survey Base Map, 1911, scale 1 / 500,000, and the following Topographic sheets of the United States Geological Survey:\*

Baraboo

Bay View

Briggsville

Brodhead

Cross Plains

Delavan

Denzer

Eagle

Elkader

Evansville

Fond du Lac

Hartford

Janesville

Koshkonong

Lake Geneva

Lancaster

Madison

Marathon special

Milwaukee

Mineral Point

Muskego

Neenah

Oconomowoc

Portage

Port Washington

Poynette

Racine

Richland Center

Shopiere

Silver Lake

Sun Prairie

Sparta

St. Croix Dells

Stoughton

The Dells

Waterloo

Watertown

Waukesha

Waukon

Wausau special

West Bend

Whitewater

The letter "L" or "R" in parenthesis after the name of a stream indicates that the stream is a tributary from the left or right respectively to the stream into which it flows. It should be understood that directions are only general and distances approximate.

**Adams Creek** (L); rises in Buffalo County, in T. 24 N., R. 10 W., flows northwest 3 miles into Buffalo River (tributary to Mississippi River) in T. 24 N., R. 10 W.

**Adams Valley** (R); rises in La Crosse County, in T. 17 N., R. 5 W., extends south 3 miles into Burnham Valley (tributary to Mississippi River) in La Crosse County, T. 17 N., R. 5 W.

\* An index map showing the area covered by each sheet may be obtained by applying to the Director, United States Geological Survey, Washington, D. C.

- Ahnapee River**; rises in Door County, in T. 26 N., R. 34 E., flows northeast 6 miles, southeast 13 miles into Lake Michigan at Algoma in Kewaunee County, T. 25 N., R. 25 W.
- Allen Creek (L)**; rises in Dane County, in T. 5 N., R. 9 E., flows southeast 13 miles through Green and Rock Counties, southwest  $2\frac{1}{2}$  miles, and west  $7\frac{1}{2}$  miles into Sugar River (tributary to Rock River which discharges into Mississippi River) in Green County, T. 3 N., R. 9 E.
- Allen Creek (L)**; rises in Rock County, T. 4 N., R. 14 E., flows north 8 miles into Rock River (tributary to Mississippi River) in Jefferson County, T. 5 N., R. 14 E.
- Allouez River.** See Bluff Creek.
- Ames Branch (R)**; rises in Lafayette County, in T. 2 N., R. 2 E., at the junction of North and South Forks, flows east 7 miles into Pecatonica River (tributary to Rock River which discharges into Mississippi River) in Lafayette County, T. 2 N., R. 3 E. Same as Little Otter Creek.
- Ames Branch, North Fork (L)**; head of Ames Branch rises in Lafayette County, T. 2 N., R. 2 E., flows southeast  $4\frac{1}{2}$  miles into Ames Branch (tributary to Pecatonica River which discharges into Rock River) in junction with South Fork in Lafayette County, T. 2 N., R. 2 E.
- Ames Branch, South Fork (R)**; rises in Lafayette County, in T. 2 N., R. 2 E., flows southeast 4 miles into Ames Branch (tributary to Pecatonica River which discharges into Rock River) in junction with North Fork of Ames Branch in Lafayette County, T. 2 N., R. 2 E.
- Aminicon River**; rises in Douglas County, in T. 45 N., R. 14 W., flows north 7 miles, east 6 miles through Aminicon Lake, north again 8 miles, then eastward and northward 15 miles, discharging into Lake Superior, in T. 49 N., R. 12 W. Gaging station near Aminicon Falls (1914).
- Anderson Creek**; rises in Fond du Lac County, in T. 16 N., R. 16 E., flows east  $3\frac{1}{2}$  miles into Lake Winnebago (which discharges through Fox River into Lake Michigan) in T. 16 N., R. 17 E.
- Annie Creek (L)**; rises in St. Croix County, in T. 29 N., R. 15 W., flows southeast 5 miles into Wilson Creek (tributary to Red Cedar River which discharges into Mississippi River through Chippewa River) in Dunn County, in T. 29 N., R. 14 W.
- Apple Creek (R)**; rises in Lafayette County, in T. 3 N., R. 4 E., flows southeast  $6\frac{1}{2}$  miles into East Pecatonica River (tributary to Rock River which discharges into Mississippi River) in Lafayette County, T. 2 N., R. 5 E.
- Apple Creek (L)**; rises in Outagamie County, in T. 22 N., R. 17 E., flows east 16 miles into Fox River (which discharges into Green Bay) in Brown County, T. 22 N., R. 19 E.
- Apple River (L)**; rises in Barron County, in T. 35 N., R. 14 W., flows southwest 55 miles into St. Croix River (tributary to Mississippi River) in St. Croix County, in T. 31 N., R. 19 W. Gaging station near Somerset (1901-1914).
- Armstrong Creek (L)**; rises in Forest County, in T. 37 N., R. 17 E., flows generally south 14 miles into Peshtigo River (which discharges into Green Bay) in Forest County, in T. 36 N., R. 16 E.
- Ash Creek (R)**; rises in Richland County, in T. 10 N., R. 1 W., flows east 7 miles into Pine River (tributary to Wisconsin River) in Richland County, in T. 9 N., R. 1 E.

**Ashippun River** (L); rises in Washington County, in T. 9 N., R. 18 E., flows southwest 18 miles into Rock River (tributary to Mississippi River) in Jefferson County, in T. 8 N., R. 16 E.

**Ashwaubanon Creek** (L); rises in Brown County, in T. 22 N., R. 19 E., flows northeast 9 miles into Fox River (which discharges into Green Bay) in Brown County, in T. 23 N., R. 20 E., 2 miles south of Green Bay.

**Bacon Branch** (L); rises in Grant County, in T. 4 N., R. 1 W., flows west 4 miles into Bull Branch (tributary to Platte River which discharges into Mississippi River) in Grant County, in T. 4 N., R. 2 W.

**Bad River**; rises in Ashland County, in T. 43 N., R. 2 W., flows generally north 48 miles into Lake Superior, in Ashland County, in T. 48 N., R. 2 W., drains Herberts Lake and other small lakes. Gaging station near Odanah (1914).

**Bad Axe River** (L); rises in Vernon County, in T. 13 N., R. 4 W., flows southwest 19 miles into Mississippi River in Vernon County, in T. 12 N., R. 7 W.

**Bad Axe River, South Fork** (L); rises in Vernon County, in T. 13 N., R. 5 W., flows southwest 7 miles, west 8 miles into Bad Axe River (tributary to Mississippi River) in Vernon County, in T. 12 N., R. 7 W.

**Bad Fish (Waukoma) Creek** (R); rises in Dane County, in T. 5 N., R. 9 E., flows southeast 15 miles into Yahara River (tributary to Rock River which discharges into Mississippi River) in Rock County, in T. 4 N., R. 11 E.

**Bailey Creek** (L); rises in Buffalo County, in T. 23 N., R. 11 W., flows northwest 3 miles into Elk Creek (tributary to Buffalo River which discharges into Mississippi River) in Buffalo County, in T. 23 N., R. 11 W.

**Balsam Branch.** See Sucker Branch.

**Balsam Creek** (R); rises in Douglas County, in T. 46 N., R. 15 W., flows north 4 miles, northeast 10 miles into Nemadji River (tributary to Black River which discharges into Lake Superior through Superior Bay) in Douglas County, in T. 47 N., R. 14 W.

**Baraboo River** (R); rises in Monroe County, in T. 16 N., R. 1 E., flows southeast 53 miles through Juneau and Sauk Counties to Baraboo County, and continues east 19 miles into Wisconsin River, in Columbia County, in T. 12 N., R. 9 W. Gaging station near Baraboo (1913-1914).

**Baraboo River, North Branch** (R); rises in Monroe County, in T. 15 N., R. 1 W., flows southeast 10 miles into Baraboo River (tributary to Wisconsin River) in Juneau County, in T. 14 N., R. 2 E.

**Baraboo River, South Branch** (R); rises in Vernon County, in T. 13 N., R. 1 W., flows east 11 miles into Baraboo River (tributary to Wisconsin River) in Juneau County, in T. 14 N., R. 2 E.

**Baraboo River, Little** (R); formed by junction of West and Middle Branches of Little Baraboo River in Sauk County, in T. 12 N., R. 3 E., flows northeast 3 miles into Baraboo River (tributary to Wisconsin River) in Sauk County, in T. 13 N., R. 3 E.

**Baraboo River, Little, West Branch** (L); rises in Vernon County, in T. 13 N., R. 1 E., flows southeast 8 miles into Little Baraboo River (tributary to Baraboo River which discharges into Wisconsin River) in Sauk County, in T. 12 N., R. 3 E.

- Big Elk River (L);** rises in Price County, in T. 38 N., R. 3 E., flows southwest 9 miles, draining several small lakes, including Dartis and Duroys Lakes, then generally westward 12 miles into South Fork of Flambeau River (tributary to Chippewa River which discharges into Mississippi River) in Price County, in T. 37 N., R. 2 W.
- Big River (L);** rises in Pierce County, in T. 27 N., R. 18 W., flows southwest 10 miles into Mississippi River in Pierce County, in T. 26 N., R. 19 W.
- Big Rock Creek,** and other "Big" Creeks; See significant noun.
- Billings Creek (L);** rises in Monroe County, in T. 15 N., R. 1 W., flows southwest 13 miles into Kickapoo River (tributary to Wisconsin River) in Vernon County, in T. 14 N., R. 2 W.
- Billings Creek, North (R);** head of Billings Creek rises in Monroe County, in T. 15 N., R. 1 W., flows south 2 miles into Billings Creek (tributary to Kickapoo River which discharges into Wisconsin River) in Monroe County, in T. 15 N., R. 1 W.
- Billings Creek, South (L);** rises in Vernon County, in T. 14 N., R. 1 W., flows west 4 miles into Billings Creek (tributary to Kickapoo River which discharges into Wisconsin River) in Vernon County, in T. 14 N., R. 2 W.
- Bishop's Branch (R);** rises in Vernon County at city of Viroqua, in T. 13 N., R. 4 W., flows southeast 8 miles into West Branch of Kickapoo River (tributary to Kickapoo River which discharges into Wisconsin River) in Vernon County, in T. 12 N., R. 3 W.
- Black Brook (R);** rises in Waupaca County, in T. 24 N., R. 11 E., flows southeast  $13\frac{1}{2}$  miles into Little Wolf River (tributary to Wolf River which discharges into Green Bay through Upper and Lower Fox Rivers) in Waupaca County, in T. 24 N., R. 13 E.
- Black Creek (R);** rises in Marathon County, in T. 28 N., R. 5 E., flows southeast 10 miles into Wisconsin River in Marathon County, in T. 27 N., R. 7 E.
- Black Creek (L);** rises in Shawano County; in T. 25 N., R. 18 E., flows southwest 18 miles into Shiocton River (tributary to Wolf River which discharges into Green Bay through Upper and Lower Fox Rivers) in Outagamie County, in T. 23 N., R. 16 E.
- Black Creek (R);** rises in Taylor County, in T. 31 N., R. 2 E., flows southeast 15 miles into Rib River (tributary to Wisconsin River) in Marathon County, in T. 29 N., R. 5 E.
- Black Earth Creek (L);** rises in Dane County, in T. 7 N., R. 8 E., flows northwest 15 miles, west 7 miles into Wisconsin River in Iowa County, in T. 8 N., R. 5 E.
- Black River;** rises in Douglas County, in T. 45 N., R. 15 W., flows north 34 miles into Lake Superior through Superior Bay at Superior in Douglas County, in T. 49 N., R. 13 W.
- Black River;** rises in Sheboygan County, in T. 14 N., R. 23 E., flows northeast 7 miles into Lake Michigan 2 miles south of Sheboygan in Sheboygan County, in T. 14 N., R. 23 E.
- Black River (L);** rises in Taylor County, in T. 32 N., R. 2 E., flows southwest 24 miles, south 45 miles to Neillsville, continues southwest 21 miles to Black River Falls, southwest 48 miles into Mississippi River at La Crosse in La Crosse County, in T. 16 N., R. 7 W. Gaging Station near Neillsville (1905-1909) (1913-1914).



- Black River, East Fork (L);** rises in Clark County, in T. 24 N., R. 1 E., flows south 16 miles, northwest 26 miles into Black River (tributary to Mississippi River) in Clark County, in T. 23 N., R. 3 W.
- Blakely Branch (L);** rises in Grant County, in T. 3 N., R. 2 W., flows south of west 3 miles into Platte River (tributary to Mississippi River) in T. 3 N., R. 2 W.
- Blake Fork (R);** rises in Grant County, in T. 6 N., R. 5 W., flows southeast 13 miles into Grant River (tributary to Mississippi River) in Grant County, in T. 4 N., R. 4 W.
- Blockhouse Creek (L);** rises in Grant County, in T. 3 N., R. 1 W., flows southwest 9 miles into Little Platte River (tributary to Platte River which discharges into Mississippi River) in Grant County, in T. 2 N., R. 2 W.
- Blue Mound Branch, West (L);** head of East Pecatonica River; rises in Iowa County, in T. 6 N., R. 4 E., flows southwest 6 miles, then generally south 12 miles where it joins East Blue Mound Branch, in Lafayette County, in T. 4 N., R. 5 E.; same as West Branch of East Pecatonica River. (See East Pecatonica River).
- Blue Mound Branch, East (L);** rises in Dane County, in T. 6 N., R. 6 E., flows southwest 7 miles, then south 8 miles into West Blue Mound Branch, or West Branch of East Pecatonica River in Iowa County, in T. 4 N., R. 5 E.; same as East Branch of East Pecatonica River.
- Blue Mounds Creek (L);** rises in Dane County, in T. 6 N., R. 6 E., flows northwest 13 miles into Black Earth Creek (tributary to Wisconsin River) in Iowa County, in T. 8 N., R. 5 E.
- Blue River (L);** rises in Iowa County, in T. 6 N., R. 1 E., flows northwest 25 miles into Wisconsin River in Grant County, in T. 8 N., R. 2 W.
- Bluff Creek (Allouez River);** rises in Douglas County, in T. 47 N., R. 13 W., flows north and west about 5 miles, then northeast about 5 miles into Allouez Bay (which enters Lake Superior) in Douglas County, in T. 49 N., R. 13 W.
- Boiling Creek (L);** rises in Dane County, in T. 8 N., R. 6 E., flows northwest  $4\frac{1}{2}$  miles into Wisconsin River in Dane County, in T. 9 N., R. 6 E.
- Bois Creek (L);** rises in Grant County, in T. 4 N., R. 3 W., flows southwest 10 miles into Grant River (tributary to Mississippi River) in Grant County, in T. 3 N., R. 3 W.
- Bonner Branch (R);** rises in Lafayette County, in T. 3 N., R. 1 E., flows east 14 miles into Pecatonica River (tributary to Rock River which discharges into Mississippi River) in Lafayette County, in T. 3 N., R. 3 E.
- Borah Creek (R);** rises in Grant County, in T. 6 N., R. 3 W., flows south 7 miles into Roger Branch (tributary to Grant River which discharges into Mississippi River) in Grant County, in T. 5 N., R. 3 W.
- Bostwick Creek (L);** rises in La Crosse County, in T. 15 N., R. 5 W., flows northwest 11 miles into La Crosse River (tributary to Mississippi River) in La Crosse County, in T. 16 N., R. 6 W.
- Branch River (L);** rises in Brown County, in T. 22 N., R. 20 E., flows southeast 15 miles, northeast 3 miles, then southeast 12 miles into Manitowoc River (which discharges into Lake Michigan) in Manitowoc County, in T. 19 N., R. 23 E.
- Brandy Creek (L);** rises in Monroe County, in T. 19 N., R. 1 W., flows southeast 5 miles into Mill Creek (tributary to Lemonweir River which discharges into Wisconsin River) in Monroe County, in T. 18 N., R. 1 E.

- Big Elk River (L);** rises in Price County, in T. 38 N., R. 3 E., flows southwest 9 miles, draining several small lakes, including Dartis and Duroys Lakes, then generally westward 12 miles into South Fork of Flambeau River (tributary to Chippewa River which discharges into Mississippi River) in Price County, in T. 37 N., R. 2 W.
- Big River (L);** rises in Pierce County, in T. 27 N., R. 18 W., flows southwest 10 miles into Mississippi River in Pierce County, in T. 26 N., R. 19 W.
- Big Rock Creek,** and other "Big" Creeks; See significant noun.
- Billings Creek (L);** rises in Monroe County, in T. 15 N., R. 1 W., flows southwest 13 miles into Kickapoo River (tributary to Wisconsin River) in Vernon County, in T. 14 N., R. 2 W.
- Billings Creek, North (R);** head of Billings Creek rises in Monroe County, in T. 15 N., R. 1 W., flows south 2 miles into Billings Creek (tributary to Kickapoo River which discharges into Wisconsin River) in Monroe County, in T. 15 N., R. 1 W.
- Billings Creek, South (L);** rises in Vernon County, in T. 14 N., R. 1 W., flows west 4 miles into Billings Creek (tributary to Kickapoo River which discharges into Wisconsin River) in Vernon County, in T. 14 N., R. 2 W.
- Bishop's Branch (R);** rises in Vernon County at city of Viroqua, in T. 13 N., R. 4 W., flows southeast 8 miles into West Branch of Kickapoo River (tributary to Kickapoo River which discharges into Wisconsin River) in Vernon County, in T. 12 N., R. 3 W.
- Black Brook (R);** rises in Waupaca County, in T. 24 N., R. 11 E., flows southeast  $13\frac{1}{2}$  miles into Little Wolf River (tributary to Wolf River which discharges into Green Bay through Upper and Lower Fox Rivers) in Waupaca County, in T. 24 N., R. 13 E.
- Black Creek (R);** rises in Marathon County, in T. 28 N., R. 5 E., flows southeast 10 miles into Wisconsin River in Marathon County, in T. 27 N., R. 7 E.
- Black Creek (L);** rises in Shawano County; in T. 25 N., R. 18 E., flows southwest 18 miles into Shiocton River (tributary to Wolf River which discharges into Green Bay through Upper and Lower Fox Rivers) in Outagamie County, in T. 23 N., R. 16 E.
- Black Creek (R);** rises in Taylor County, in T. 31 N., R. 2 E., flows southeast 15 miles into Rib River (tributary to Wisconsin River) in Marathon County, in T. 29 N., R. 5 E.
- Black Earth Creek (L);** rises in Dane County, in T. 7 N., R. 8 E., flows northwest 15 miles, west 7 miles into Wisconsin River in Iowa County, in T. 8 N., R. 5 E.
- Black River;** rises in Douglas County, in T. 45 N., R. 15 W., flows north 34 miles into Lake Superior through Superior Bay at Superior in Douglas County, in T. 49 N., R. 13 W.
- Black River;** rises in Sheboygan County, in T. 14 N., R. 23 E., flows northeast 7 miles into Lake Michigan 2 miles south of Sheboygan in Sheboygan County, in T. 14 N., R. 23 E.
- Black River (L);** rises in Taylor County, in T. 32 N., R. 2 E., flows southwest 24 miles, south 45 miles to Neillsville, continues southwest 21 miles to Black River Falls, southwest 48 miles into Mississippi River at La Crosse in La Crosse County, in T. 16 N., R. 7 W. Gaging Station near Neillsville (1905-1909) (1913-1914).

- Black River, East Fork** (L); rises in Clark County, in T. 24 N., R. 1 E., flows south 16 miles, northwest 26 miles into Black River (tributary to Mississippi River) in Clark County, in T. 23 N., R. 3 W.
- Blakely Branch** (L); rises in Grant County, in T. 3 N., R. 2 W., flows south of west 3 miles into Platte River (tributary to Mississippi River) in T. 3 N., R. 2 W.
- Blake Fork** (R); rises in Grant County, in T. 6 N., R. 5 W., flows southeast 13 miles into Grant River (tributary to Mississippi River) in Grant County, in T. 4 N., R. 4 W.
- Blockhouse Creek** (L); rises in Grant County, in T. 3 N., R. 1 W., flows southwest 9 miles into Little Platte River (tributary to Platte River which discharges into Mississippi River) in Grant County, in T. 2 N., R. 2 W.
- Blue Mound Branch, West** (L); head of East Pecatonica River; rises in Iowa County, in T. 6 N., R. 4 E., flows southwest 6 miles, then generally south 12 miles where it joins East Blue Mound Branch, in Lafayette County, in T. 4 N., R. 5 E.; same as West Branch of East Pecatonica River. (See East Pecatonica River).
- Blue Mound Branch, East** (L); rises in Dane County, in T. 6 N., R. 6 E., flows southwest 7 miles, then south 8 miles into West Blue Mound Branch, or West Branch of East Pecatonica River in Iowa County, in T. 4 N., R. 5 E.; same as East Branch of East Pecatonica River.
- Blue Mounds Creek** (L); rises in Dane County, in T. 6 N., R. 6 E., flows northwest 13 miles into Black Earth Creek (tributary to Wisconsin River) in Iowa County, in T. 8 N., R. 5 E.
- Blue River** (L); rises in Iowa County, in T. 6 N., R. 1 E., flows northwest 25 miles into Wisconsin River in Grant County, in T. 8 N., R. 2 W.
- Bluff Creek (Allouez River)**; rises in Douglas County, in T. 47 N., R. 13 W., flows north and west about 5 miles, then northeast about 5 miles into Allouez Bay (which enters Lake Superior) in Douglas County, in T. 49 N., R. 13 W.
- Boiling Creek** (L); rises in Dane County, in T. 8 N., R. 6 E., flows northwest  $4\frac{1}{2}$  miles into Wisconsin River in Dane County, in T. 9 N., R. 6 E.
- Bois Creek** (L); rises in Grant County, in T. 4 N., R. 3 W., flows southwest 10 miles into Grant River (tributary to Mississippi River) in Grant County, in T. 3 N., R. 3 W.
- Bonner Branch** (R); rises in Lafayette County, in T. 3 N., R. 1 E., flows east 14 miles into Pecatonica River (tributary to Rock River which discharges into Mississippi River) in Lafayette County, in T. 3 N., R. 3 E.
- Borah Creek** (R); rises in Grant County, in T. 6 N., R. 3 W., flows south 7 miles into Roger Branch (tributary to Grant River which discharges into Mississippi River) in Grant County, in T. 5 N., R. 3 W.
- Bostwick Creek** (L); rises in La Crosse County, in T. 15 N., R. 5 W., flows northwest 11 miles into La Crosse River (tributary to Mississippi River) in La Crosse County, in T. 16 N., R. 6 W.
- Branch River** (L); rises in Brown County, in T. 22 N., R. 20 E., flows southeast 15 miles, northeast 3 miles, then southeast 12 miles into Manitowoc River (which discharges into Lake Michigan) in Manitowoc County, in T. 19 N., R. 23 E.
- Brandy Creek** (L); rises in Monroe County, in T. 19 N., R. 1 W., flows southeast 5 miles into Mill Creek (tributary to Lemonweir River which discharges into Wisconsin River) in Monroe County, in T. 18 N., R. 1 E.

- Bridge Creek (L);** rises in Eau Claire County, in T. 25 N., R. 5 W., flows northwest  $14\frac{1}{2}$  miles into Eau Claire River (tributary to Chippewa River which discharges into Mississippi River) in Eau Claire County, in T. 26 N., R. 7 W.
- Briggs Creek (R);** rises in Monroe County, in T. 15 N., R. 3 W., flows southeast 8 miles into Kickapoo River (tributary to Wisconsin River) in Vernon County, in T. 14 N., R. 2 W.
- Brignons Creek.** See Greenough Creek.
- Browns Creek (R);** rises in Buffalo County, in T. 24 N., R. 12 W., flows south 7 miles into Buffalo (Beef) River (tributary to Mississippi River) in Buffalo County, in T. 23 N., R. 12 W.
- Brule River;** rises in Douglas County, in T. 45 N., R. 11 W., flows northeast and north 30 miles into Lake Superior in Douglas County, in T. 49 N., R. 10 W., drains Minnesuing and Nebagamain Lakes. Gaging station near Brule (1914).
- Brule River (R);** rises in Big Sand Lake in Vilas County, in T. 41 N., R. 12 E., flows southeast and east 43 miles into Menominee River (which discharges into Green Bay) in Florence County, in T. 40 N., R. 18 E. Gaging station near Florence (1914).
- Brunette River (L);** rises in Sawyer County, in T. 40 N., R. 3 W., flows southwest 27 miles into Chippewa River (tributary to Mississippi River) in Sawyer County, in T. 37 N., R. 7 W.
- Brunsweller Creek (R);** rises in Ashland County, in T. 43 N., R. 4 W., flows north about 9 miles through Munson and Bladder Lakes, continuing generally north 5 miles, then northeast 6 miles into Marengo River (tributary to Bad River which discharges into Lake Superior) in Ashland County, in T. 46 N., R. 3 W.
- Brush Creek (R);** rises in Richland County, in T. 10 N., R. 1 W., flows southeast 3 miles into Pine River (tributary to Wisconsin River) in Richland County, in T. 10 N., R. 1 E., at Richland.
- Buck Creek (L);** rises in Crawford County, in T. 10 N., R. 5 W., flows southwest 4 miles into Mississippi River in Crawford County, in T. 10 N., R. 6 W.
- Buck Creek (L);** rises in Richland County, in T. 11 N., R. 1 E., flows west  $2\frac{1}{2}$  miles into Pine River (tributary to Wisconsin River) in Richland County, in T. 11 N., R. 1 E.
- Buckstaff Creek;** rises in Winnebago County, in T. 18 N., R. 16 E., flows east 2 miles into Lake Winnebago (which discharges into Green Bay through Lower Fox River) in Winnebago County, in T. 18 N., R. 16 E.
- Buena Vista Creek (L);** rises in Portage County, in T. 22 N., R. 9 E., flows west 21 miles into Wisconsin River in Wood County, in T. 22 N., R. 5 E.
- Buffalo River (L);** rises in Jackson County, in T. 24 N., R. 5 W., flows west 33 miles, southwest 21 miles into Mississippi River in Buffalo County, in T. 22 N., R. 13 W.
- Buffalo River, South Fork (L);** rises in Jackson County, in T. 24 N., R. 5 W., flows west 6 miles, then northwest 4 miles into Buffalo River (tributary to Mississippi River) in Jackson County, in T. 24 N., R. 7 W.
- Bull Branch (L);** rises in Grant County, in T. 5 N., R. 1 W., flows southwest 4 miles into Platte River (tributary to Mississippi River) in Grant County, in T. 4 N., R. 2 W.

- Bull Branch (R);** rises in Lafayette County, in T. 1 N., R. 1 E., flows southeast 3 miles into Galena River (tributary to Mississippi River) in Lafayette County, in T. 1 N., R. 1 E.
- Bull Branch (L);** rises in Polk County, in T. 33 N., R. 15 W., flows generally west 7 miles into Apple River (tributary to St. Croix River) in Polk County, in T. 32 N., R. 16 W.
- Bull Creek Jr. (L);** rises in Marathon County, in T. 27 N., R. 9 E., flows northwest 3 miles, then southwest 11 miles into Wisconsin River in Marathon County, in T. 27 N., R. 7 E.
- Burns Creek (R);** rises in La Crosse County, in T. 18 N., R. 5 W., flows southwest 10 miles into La Crosse River (tributary to Mississippi River) in La Crosse County, in T. 17 N., R. 5 W.
- Butler Creek (R);** rises in Dodge County, in T. 11 N., R. 17 E., flows south 7 miles into Rubicon River (tributary to Rock River which discharges into Mississippi River) in Dodge County, in T. 10 N., R. 17 E.
- Butternut Creek (R);** rises in Iron County, in T. 43 N., R. 1 E., flows southwest 33 miles through Ashland and Price Counties into Flambeau River (tributary to Chippewa River which discharges into Mississippi River) in Sawyer County, in T. 39 N., R. 2 W.
- Cady Creek (L);** rises in St. Croix County, in T. 28 N., R. 15 W., flows south 13 miles into Eau Galle River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County, in T. 27 N., R. 14 W.
- Cannon Branch (L);** rises in Grant County, in T. 4 N., R. 2 W., flows southwest 3 miles into Platte River (tributary to Mississippi River) in T. 4 N., R. 2 W.
- Cannon Valley (L);** extends from T. 15 N., R. 4 W., in Monroe County, northeastward about 5 miles to Leon Valley (drained by Little La Crosse River, tributary to La Crosse River which discharges into Mississippi River) in T. 16 N., R. 4 W.
- Canoe Creek (R);** rises in Douglas County, in T. 44 N., R. 13 W., flows south 5 miles into St. Croix River (tributary to Mississippi River) in Douglas County, in T. 43 N., R. 13 W.
- Carries Creek (R);** rises in Ashland County, in T. 44 N., R. 1 W., flows west 7 miles into Bad River (which discharges into Lake Superior) in Ashland County, in T. 44 N., R. 2 W.
- Catfish River.** Same as Yahara River.
- Cauley Creek (L);** rises in Clark County, in T. 26 N., R. 1 W., flows southwest 12 miles into Black River (tributary to Mississippi River) 2 miles north of Neillsville in Clark County, in T. 24 N., R. 2 W.
- Cedar Creek (R);** rises in Big Cedar Lake in Washington County, in T. 11 N., R. 19 E., flows east 1 mile to Little Cedar Lake, southeast 8 miles, northeast 6 miles, east 5 miles, and generally south 18 miles into Milwaukee River (which discharges into Lake Michigan) in Ozaukee County, in T. 10 N., R. 21 E.
- Cedar Creek (R);** rises in Manitowoc County, in T. 17 N., R. 21 E., flows northwest about 6 miles into Manitowoc River (which discharges into Lake Michigan) in Manitowoc County, in T. 18 N., R. 21 E.
- Centre Creek (L);** rises in Buffalo County, in T. 23 N., R. 13 W., flows northwest 4 miles into Little Dear Creek (tributary to Beef Slough which discharges into Mississippi River) in Buffalo County, in T. 23 N., R. 13 W.

- Chase Brook (R);** rises in Douglas County, in T. 44 N., R. 14 W., flows southwest 15 miles into St. Croix River (tributary to Mississippi River) in Burnett County, in T. 42 N., R. 15 W.
- Chase Creek (L);** rises in Grant County, in T. 5 N., R. 6 W., flows southwest 3 miles into Mississippi River in Grant County, in T. 4 N., R. 6 W.
- Chimney Rock Creek (R);** rises in Trempealeau County, in T. 23 N., R. 9 W., flows south 6 miles into Elk Creek (tributary to Trempealeau River which discharges into Mississippi River) in Trempealeau County, in T. 23 N., R. 8 W.
- Chipmunk Coulé (L);** rises in Vernon County, in T. 14 N., R. 6 W., flows west  $5\frac{1}{2}$  miles into Mississippi River in Vernon County, in T. 14 N., R. 7 W.
- Chippewa River (L);** rises in Iron County, in T. 43 N., R. 1 E., flows generally southwestward about 220 miles, through Ashland, Sawyer, Rusk, Chippewa, Eau Claire, and Pepin Counties into Mississippi River, in T. 22 N., R. 14 W. Gaging stations at Lessards near Winter (1911-1914); Bishops Bridge near Winter (1912-1914); near Bruce (1913-1914); at Chippewa Falls (1888-1914); near Eau Claire (1902-1909).
- Chippewa River, East Fork (L);** rises in Iron County, in T. 43 N., R. 1 E., flows southwestward 57 miles into Chippewa River in junction with West Fork in Sawyer County, in T. 39 N., R. 6 W.
- Chippewa River, West Fork (R);** rises in Ashland County, in T. 43 N., R. 3 W., flows southwest 23 miles, south 6 miles into Chippewa River (tributary to Mississippi River) in junction with East Fork, in Sawyer County, in T. 39 N., R. 6 W.
- Cisco (Rat) River (L);** rises in Outagamie County, in T. 21 N., R. 16 E., flows southwest 18 miles into Wolf River (tributary to Fox River which discharges into Green Bay) in Winnebago County, in T. 20 N., R. 14 E.
- Citron Creek (R);** rises in Crawford County, in T. 9 N., R. 5 W., flows southeast 5 miles into Kickapoo River (tributary to Wisconsin River) in Crawford County, in T. 8 N., R. 4 W.
- Clam River (L);** rises in Washburn County, in T. 37 N., R. 13 W., flows northwest 21 miles into Clam Lake, continuing northwest 17 miles into St. Croix River (tributary to Mississippi River) in Burnett County, in T. 40 N., R. 18 W.
- Clear Creek (L);** rises in State of Minnesota, flows east 5 miles into Douglas County, Wisconsin, in T. 47 N., R. 15 W., continues east 3 miles into Nemadji River (which discharges into Lake Superior) in Douglas County, in T. 47 N., R. 15 W.
- Como Creek (L);** rises in Walworth County, in T. 2 N., R. 17 E., flows east 4 miles through Lake Como, and continues east 4 miles into White River (tributary to Sugar Creek which discharges into Fox River and on into Illinois River and into Mississippi River) in Walworth County, in T. 2 N., R. 18 E.
- Coolie Creek (R);** rises in Vernon County, in T. 11 N., R. 6 W., flows south 5 miles into Rush Creek (tributary to Mississippi River) in Crawford County, in T. 11 N., R. 6 W.
- Coon Branch (R);** rises in Lafayette County, in T. 1 N., R. 1 W., flows eastward about 1 mile, then southward 4 miles into Galena (Fever) River (tributary to Mississippi River) in T. 1 N., R. 1 E.



- Coon Creek (L);** rises in Eau Claire County, in T. 5 N., R. 10 W., flows northwest 10 miles into Chippewa River (tributary to Mississippi River) in Dunn County, in T. 26 N., R. 11 W.
- Coon Creek (L);** rises in Jackson County, in T. 24 N., R. 5 W., flows northwest 14 miles into Eau Claire River (tributary to Chippewa River which discharges into Mississippi River) in Eau Claire County, in T. 26 N., R. 5 W.
- Coon Creek (L);** rises in Rock County, in T. 2 N., R. 11 E., flows generally southeast 9 miles, through T. 1 N., R. 11 E., into the State of Illinois, and continues in that direction for about 6 miles into Pecatonica River (tributary to Rock River which discharges into Mississippi River).
- Coon Creek (L);** rises in Monroe County, in T. 15 N., R. 4 W., flows southwest 25 miles into Mississippi River in Vernon County, in T. 14 N., R. 7 W.
- Copper Creek (L);** rises in Crawford County, in T. 10 N., R. 5 W., flows west 9 miles into Mississippi River in Crawford County, in T. 10 N., R. 6 W.
- Copper River (R);** rises in Lincoln County, in T. 33 N., R. 4 E., flows southeast 18 miles into Wisconsin River in Lincoln County, in T. 31 N., R. 6 E.
- Cottage Inn Branch (L);** rises in Lafayette County, in T. 4 N., R. 1 E., flows southeast  $5\frac{1}{2}$  miles into Bonner Branch (tributary to Pecatonica River which discharges into Rock River) in Lafayette County, in T. 3 N., R. 2 E.
- Cottonwood (Middle) River;** rises in Douglas County, in T. 46 N., R. 12 W., flows north about 19 miles into Lake Superior, in T. 49 N., R. 11 W.
- Council Creek (R);** rises in Monroe County, in T. 16 N., R. 1 W., flows north  $9\frac{1}{2}$  miles into Deer Creek (tributary to Lemonweir River which discharges into Wisconsin River) in Monroe County, in T. 18 N., R. 1 W.
- Coulé Creek (R);** rises in Vernon County, in T. 11 N., R. 6 W., flows south 3 miles into Rush Creek (tributary to Mississippi River) in Crawford County, in T. 10 N., R. 7 W.
- County Line Creek (R);** rises in Marathon County, in T. 30 N., R. 7 E., flows northeast 2 miles, and southeast 4 miles into Wisconsin River in Marathon County, in T. 30 N., R. 7 E.
- Court Oreilles River (R);** rises in Court Oreilles Lake in Sawyer County, in T. 39 N., R. 8 W., flows southeast 18 miles into Chippewa River (tributary to Mississippi River) in Sawyer County, in T. 38 N., R. 7 W.
- Cowley Creek (L);** rises in Clark County, in T. 26 N., R. 1 W., flows southwest 14 miles into Black River (tributary to Mississippi River) in T. 24 N., R. 2 W.
- Cranberry Creek (L);** rises in Pepin County, in T. 25 N., R. 11 W., flows northwest 10 miles into Chippewa River (tributary to Mississippi River) in Dunn County, in T. 26 N., R. 12 W.
- Cranberry Creek (L);** rises in Wood County, in T. 22 N., R. 4 E., flows southwest 19 miles into Yellow River (tributary to Wisconsin River) in Juneau County, in T. 19 N., R. 2 E.
- Cranberry River;** rises in Bayfield County, in T. 49 N., R. 7 W., flows northwest and north about 9 miles into Lake Superior in Bayfield County, in T. 50 N., R. 7 W.

**Crawfish River** (R); rises in Columbia County, in T. 11 N., R. 11 E., flows northeast 9 miles, southeast 34 miles, and south 20 miles into Rock River (tributary to Mississippi River) in Jefferson County, in T. 6 N., R. 14 E.

**Crooked River** (L); rises in Grant County, in T. 7 N., R. 3 W., flows north 7 miles into Wisconsin River in Grant County, in T. 8 N., R. 3 W.

**Crow Branch** (L); rises in Grant County, in T. 5 N., R. 1 W., flows west 5 miles into Platte River (tributary to Mississippi River) in Grant County, in T. 5 N., R. 2 W.

**Cunningham Creek** (L); rises in Clark County, in T. 25 N., R. 1 E., flows southwest 17 miles into Black River (tributary to Mississippi River) in Clark County, in T. 24 N., R. 2 W.

**Day Creek** (L); rises in Vernon County, in T. 11 N., R. 3 W., flows west 3 miles into Kickapoo River (tributary to Wisconsin River) in Vernon County, in T. 11 N., R. 3 W.

**Dead Creek** (L); rises in Jackson County, in T. 20 N., R. 1 E., flows east of south 12 miles into Lemonweir River (tributary to Wisconsin River which discharges into Mississippi River) in Monroe County, in T. 19 N., R. 1 E.

**Dear Creek, Little** (L); rises in Buffalo County, in T. 24 N., R. 13 W., flows generally southwest 10 miles into Beef Slough (tributary to Mississippi River) in Buffalo County, in T. 23 N., R. 14 W.

**Deer Creek** (L); rises in Jefferson County, in T. 6 N., R. 15 E., flows west 5 miles into Rock River (tributary to Mississippi River) in Jefferson County, in T. 6 N., R. 14 E.

**Deer Creek** (R); rises in Monroe County, in T. 18 N., R. 1 W., flows east 10 miles into Lemonweir River (tributary to Wisconsin River) in Monroe County, in T. 18 N., R. 1 E.

**Deer Tail Creek** (L); rises in Rusk County, in T. 36 N., R. 4 W., flows southwest  $23\frac{1}{2}$  miles into Chippewa River in Rusk County, in T. 33 N., R. 6 W.

**Dell Creek** (R); rises in Juneau County, in T. 14 N., R. 4 E., flows southeast 12 miles, northeast 6 miles into Wisconsin River in Sauk County, in T. 13 N., R. 6 E.

**Denver Creek.** See Bear Creek; Buffalo County.

**De Neven Creek** (R); rises in Fond du Lac County, in T. 14 N., R. 17 E., flows north 9 miles into Lake Winnebago in Fond du Lac County, in T. 15 N., R. 17 E., drains Lake De Neven.

**Derr Creek** (R); rises in Waushara County, in T. 18 N., R. 8 E., flows southeast 12 miles into Mekan River (tributary to Fox River which discharges into Green Bay) at its junction with Pine Creek in Marquette County, in T. 17 N., R. 10 E.

**Desplaines River** (L); rises in Racine County, in T. 3 N., R. 21 E., flows southeast 20 miles into State of Illinois through Kenosha County, in T. 1 N., R. 22 E., then continuing south into Illinois River (tributary to Mississippi River).

**Devil Creek** (R); rises in Marathon County, in T. 30 N., R. 5 E., flows northeast 9 miles into Wisconsin River at Merrill in Lincoln County, in T. 31 N., R. 6 E.

**Devil River.** See East River.

**Devils Creek.** See Mud Creek; Rusk County.



- Dill Creek (R);** rises in Marathon County, in T. 29 N., R. 1 E., flows southwest 10 miles, east 7 miles into Big Eau Pleine River (tributary to Wisconsin River) in Marathon County, in T. 28 N., R. 3 E.
- Dodge Branch;** rises in Iowa County, in T. 6 N., R. 3 E., flows southeast 15 miles into West Branch of East Pecatonica River (tributary to Rock River which discharges into Mississippi River) in Iowa County, in T. 5 N., R. 5 E.
- Door Creek (L);** rises in Dane County, in T. 8 N., R. 10 E., flows south 11 miles into Lake Kegonsa (part of Yahara River which discharges into Rock River) in Dane County, in T. 6 N., R. 10 E.
- Door Creek, Little (L);** rises in Dane County, in T. 7 N., R. 11 E., flows northwest 2 miles, then southwest 3 miles into Door Creek (tributary to Yahara River through Lake Kegonsa) in Dane County, in T. 7 N., R. 11 E.
- Dougherty Creek (L);** rises in Green County, in T. 4 N., R. 6 E., flows southwest 12 miles into East Pecatonica River (tributary to Pecatonica River which discharges into Rock River) in Lafayette County, in T. 3 N., R. 5 E.
- Douglas Creek (R);** rises in Jackson County, in T. 20 N., R. 6 W., flows southeast 8 miles into Black River (tributary to Mississippi River) in Jackson County, in T. 19 N., R. 5 W.
- Doyles Branch (R);** rises in Washburn County, Doyles Lake, in T. 41 N., R. 10 W., flows southeast 2 miles into Namakagon River (tributary to St. Croix River which discharges into Mississippi River) in Washburn County, in T. 41 N., R. 10 W.
- Dry Hollow Creek (L);** rises in Grant County, in T. 5 N., R. 6 W., flows southwest 7 miles into Mississippi River in Grant County, in T. 5 N., R. 6 W.
- Drywood Creek (R);** rises in Chippewa County, in T. 30 N., R. 6 W., flows southwest 17 miles into Yellow River (tributary to Chippewa River which discharges into Mississippi River) in T. 29 N., R. 7 W.
- Du Charme Creek (L);** rises in Crawford County, in T. 8 N., R. 6 W., flows west 6 miles into Mississippi River in Crawford County, in T. 8 N., R. 6 W.
- Duck Creek (L);** rises in Columbia County, in T. 12 N., R. 12 E., flows west 20 miles into Wisconsin River in Columbia County, in T. 12 N., R. 9 E.
- Duck Creek (R);** rises in Marquette County, in T. 16 N., R. 8 E., flows east 7 miles into Montello Creek (tributary to Fox River which discharges into Green Bay) in Marquette County, in T. 16 N., R. 9 E.
- Duck Creek;** rises in Outagamie County, in T. 23 N., R. 17 E., flows southeast 9 miles, west 22 miles into Green Bay, in Brown County, in T. 24 N., R. 20 E.
- Duck Creek (L);** rises in Portage County, in T. 21 N., R. 8 E., flows west 15 miles into Buena Vista Creek (tributary to Wisconsin River) in Wood County, in T. 22 N., R. 6 E.
- Duck Creek, North Branch (R);** rises in Columbia County, in T. 13 N., R. 12 E., flows west 16 miles into Duck Creek (tributary to Wisconsin River) in Columbia County, in T. 12 N., R. 10 E.
- Duncan Creek (R);** rises in Chippewa County, in T. 32 N., R. 9 W., flows southeast 20 miles into Chippewa River (tributary to Mississippi River) in Chippewa County, in T. 28 N., R. 8 W., at Chippewa Falls.

- Du Sham Creek** (L); rises in Pepin County, in T. 25 N., R. 12 W., flows northwest 6 miles into Chippewa River (tributary to Mississippi River) in Dunn County, in T. 26 N., R. 12 W.
- Dutch Creek** (L); rises in Pepin County, in T. 25 N., R. 11 W., flows south 3 miles into Farrington Creek (tributary to Buffalo River which discharges into Mississippi River) in Buffalo County, in T. 24 N., R. 11 W.
- Dutch Creek** (L); rises in Monroe County, in T. 15 N., R. 4 W., flows northwest 9 miles into La Crosse River (tributary to Mississippi River) in La Crosse County, in T. 17 N., R. 5 W.
- Dutch Creek** (L); rises in Trempealeau County, in T. 19 N., R. 8 W., flows southwest 3 miles into Beaver Creek (tributary to Black River which discharges into Mississippi River) in Trempealeau County, in T. 19 N., R. 8 W.
- Dutch Gap Canal** (R); rises in George Lake, Kenosha County, in T. 1 N., R. 21 E., flows east and northeast 2 miles, then southeast 4 miles into State of Illinois, Lake County, through Kenosha County, in T. 1 N., R. 21 E.; drains George Lake.
- Eagle Creek** (L); rises in Buffalo County, in T. 21 N., R. 11 W., flows south 9 miles into Big Waumandee River (tributary to Mississippi River) in Buffalo County, in T. 19 N., R. 11 W.
- Eagle Creek** (R); rises in Richland County, in T. 12 N., R. 2 W., flows south 23 miles into Wisconsin River in Richland County, in T. 9 N., R. 1 W.
- Eagle River** (L); rises in Forest County, in T. 38 N. or 39 N., R. 12 E., takes a general northwestward course through Oneida County for about 24 miles, draining a large number of lakes and flowing into Wisconsin River (tributary to Mississippi River) in Vilas County, in T. 40 N., R. 10 E.
- Eagle Nest River** (L); rises in Marinette County, in T. 35 N., R. 18 E., flows southeast 24 miles through Noque Bay Lake, then south 6 miles into Peshtigo River (which discharges into Green Bay) in Marinette County, in T. 31 N., R. 20 E.
- East (Devil) River** (R); rises in Calumet County, in T. 20 N., R. 20 E., flows northeast 27 miles into Fox River (which discharges into Green Bay) in Brown County, in T. 24 N., R. 20 E., at Green Bay.
- East Torch River** (L); head of West Fork of Chippewa River; rises in Ashland County, in T. 43 N., R. 3 W., flows southwest 6 miles through Sawyer County into West Fork of Chippewa River (tributary to Mississippi River) in T. 42 N., R. 5 W.
- Eau Claire River** (L); rises in Bayfield County, Robinson Lake, in T. 44 N., R. 9 W., flows southwest 15 miles into St. Croix River (tributary to Mississippi River) in Douglas County, in T. 44 N., R. 11 W.
- Eau Claire River** (L); rises in Taylor County, in T. 31 N., R. 3 W., flows generally southwest 36 miles through Eau Claire County, to its junction with South Fork, then west about 30 miles into Chippewa River (tributary to Mississippi River) in Eau Claire County, in T. 27 N., R. 9 W. Gaging stations near Augusta (1914); at Eau Claire (1913-1914).
- Eau Claire River** (L); rises in Langlade County, in a number of lakes, in T. 33 N., R. 10 E., flows southeast 8 miles, southwest 44 miles into Wisconsin River in Marathon County, in T. 28 N., R. 7 E. Gaging station near Kelly (1914).

- Eau Claire River, North Fork (R);** rises in Langlade County, in Great Bass Lake in T. 33 N., R. 10 E., flows south 15 miles into Eau Claire River (tributary to Chippewa River which discharges into Mississippi River) in Eau Claire County, in T. 31 N., R. 10 E.
- Eau Claire River, North Fork (R);** rises in Taylor County, in T. 31 N., R. 3 W., flows southwest 36 miles into Eau Claire River (tributary to Chippewa River which discharges into Mississippi River) in Eau Claire County, in T. 26 N., R. 5 W. Head of Eau Claire River.
- Eau Claire River, South Fork (L);** rises in Taylor County, in T. 30 N., R. 3 W., flows south 16 miles, southwest 13 miles into Eau Claire River (tributary to Chippewa River which discharges into Mississippi River) in Eau Claire County, in T. 26 N., R. 5 W.
- Eau Claire River, Little (L);** rises in Marathon County, in T. 27 N., R. 9 E., flows southwest 20 miles into Wisconsin River in Portage County, in T. 25 N., R. 7 E.
- Eau Galle River (R);** rises in St. Croix County, in T. 29 N., R. 16 W., flows south 40 miles into Chippewa River (tributary to Mississippi River) in Pepin County, in T. 25 N., R. 13 W.
- Eau Pleine River (R);** rises in Taylor County, in T. 30 N., R. 2 E., flows southeast 50 miles into Wisconsin River in Marathon County, in T. 26 N., R. 7 E. Gaging station near Stratford (1914).
- Eau Pleine River, Little (R);** rises in Clark County, in T. 27 N., R. 1 E., flows southeast 43 miles into Wisconsin River in Portage County, in T. 25 N., R. 7 E.
- Eighteen Mile Creek (L);** rises in Dunn County, in T. 30 N., R. 11 W., flows south and west 7 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in T. 29 N., R. 11 W.
- Elk Creek (L);** rises in Buffalo County, in T. 23 N., R. 10 W., flows west 5 miles into Buffalo River (tributary to Mississippi River) in Buffalo County, in T. 23 N., R. 11 W.
- Elk Creek (R);** rises in Chippewa County, in T. 29 N., R. 9 W., flows south 20 miles into Chippewa River (tributary to Mississippi River) in Dunn County, in T. 26 N., R. 11 W.
- Elk Creek (L);** rises in Dunn County, in T. 27 N., R. 12 W., flows southwest 6 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County, in T. 27 N., R. 13 W.
- Elk Creek (R);** rises in Trempealeau County, in T. 23 N., R. 7 W., flows southwest 18 miles into Trempealeau River (tributary to Mississippi River) in Trempealeau County, in T. 22 N., R. 9 W.
- Elk Creek, Little (R);** rises in Trempealeau County, in T. 23 N., R. 9 W., flows southeast 6 miles into Elk Creek (tributary to Trempealeau River which discharges into Mississippi River) in T. 22 N., R. 9 W.
- Elk Creek, East Fork (L);** rises in Buffalo County, in T. 22 N., R. 10 W., flows northwest 7 miles into Elk Creek (tributary to Buffalo River which discharges into Mississippi River) in Buffalo County, in T. 23 N., R. 10 W.
- Elk Creek, North Fork (R);** rises in Buffalo County, in T. 23 N., R. 9 W., flows southwest 7 miles into Elk Creek (tributary to Buffalo River which discharges into Mississippi River) in Buffalo County, in T. 23 N., R. 10 W.

- Du Sham Creek (L);** rises in Pepin County, in T. 25 N., R. 12 W., flows northwest 6 miles into Chippewa River (tributary to Mississippi River) in Dunn County, in T. 26 N., R. 12 W.
- Dutch Creek (L);** rises in Pepin County, in T. 25 N., R. 11 W., flows south 3 miles into Farrington Creek (tributary to Buffalo River which discharges into Mississippi River) in Buffalo County, in T. 24 N., R. 11 W.
- Dutch Creek (L);** rises in Monroe County, in T. 15 N., R. 4 W., flows northwest 9 miles into La Crosse River (tributary to Mississippi River) in La Crosse County, in T. 17 N., R. 5 W.
- Dutch Creek (L);** rises in Trempealeau County, in T. 19 N., R. 8 W., flows southwest 3 miles into Beaver Creek (tributary to Black River which discharges into Mississippi River) in Trempealeau County, in T. 19 N., R. 8 W.
- Dutch Gap Canal (R);** rises in George Lake, Kenosha County, in T. 1 N., R. 21 E., flows east and northeast 2 miles, then southeast 4 miles into State of Illinois, Lake County, through Kenosha County, in T. 1 N., R. 21 E.; drains George Lake.
- Eagle Creek (L);** rises in Buffalo County, in T. 21 N., R. 11 W., flows south 9 miles into Big Waumandee River (tributary to Mississippi River) in Buffalo County, in T. 19 N., R. 11 W.
- Eagle Creek (R);** rises in Richland County, in T. 12 N., R. 2 W., flows south 23 miles into Wisconsin River in Richland County, in T. 9 N., R. 1 W.
- Eagle River (L);** rises in Forest County, in T. 38 N. or 39 N., R. 12 E., takes a general northwestward course through Oneida County for about 24 miles, draining a large number of lakes and flowing into Wisconsin River (tributary to Mississippi River) in Vilas County, in T. 40 N., R. 10 E.
- Eagle Nest River (L);** rises in Marinette County, in T. 35 N., R. 18 E., flows southeast 24 miles through Noque Bay Lake, then south 6 miles into Peshtigo River (which discharges into Green Bay) in Marinette County, in T. 31 N., R. 20 E.
- East (Devil) River (R);** rises in Calumet County, in T. 20 N., R. 20 E., flows northeast 27 miles into Fox River (which discharges into Green Bay) in Brown County, in T. 24 N., R. 20 E., at Green Bay.
- East Torch River (L);** head of West Fork of Chippewa River; rises in Ashland County, in T. 43 N., R. 3 W., flows southwest 6 miles through Sawyer County into West Fork of Chippewa River (tributary to Mississippi River) in T. 42 N., R. 5 W.
- Eau Claire River (L);** rises in Bayfield County, Robinson Lake, in T. 44 N., R. 9 W., flows southwest 15 miles into St. Croix River (tributary to Mississippi River) in Douglas County, in T. 44 N., R. 11 W.
- Eau Claire River (L);** rises in Taylor County, in T. 31 N., R. 3 W., flows generally southwest 36 miles through Eau Claire County, to its junction with South Fork, then west about 30 miles into Chippewa River (tributary to Mississippi River) in Eau Claire County, in T. 27 N., R. 9 W. Gaging stations near Augusta (1914); at Eau Claire (1913-1914).
- Eau Claire River (L);** rises in Langlade County, in a number of lakes, in T. 33 N., R. 10 E., flows southeast 8 miles, southwest 44 miles into Wisconsin River in Marathon County, in T. 28 N., R. 7 E. Gaging station near Kelly (1914).

- Eau Claire River, North Fork (R);** rises in Langlade County, in Great Bass Lake in T. 33 N., R. 10 E., flows south 15 miles into Eau Claire River (tributary to Chippewa River which discharges into Mississippi River) in Eau Claire County, in T. 31 N., R. 10 E.
- Eau Claire River, North Fork (R);** rises in Taylor County, in T. 31 N., R. 3 W., flows southwest 36 miles into Eau Claire River (tributary to Chippewa River which discharges into Mississippi River) in Eau Claire County, in T. 26 N., R. 5 W. Head of Eau Claire River.
- Eau Claire River, South Fork (L);** rises in Taylor County, in T. 30 N., R. 3 W., flows south 16 miles, southwest 13 miles into Eau Claire River (tributary to Chippewa River which discharges into Mississippi River) in Eau Claire County, in T. 26 N., R. 5 W.
- Eau Claire River, Little (L);** rises in Marathon County, in T. 27 N., R. 9 E., flows southwest 20 miles into Wisconsin River in Portage County, in T. 25 N., R. 7 E.
- Eau Galle River (R);** rises in St. Croix County, in T. 29 N., R. 16 W., flows south 40 miles into Chippewa River (tributary to Mississippi River) in Pepin County, in T. 25 N., R. 13 W.
- Eau Pleine River (R);** rises in Taylor County, in T. 30 N., R. 2 E., flows southeast 50 miles into Wisconsin River in Marathon County, in T. 26 N., R. 7 E. Gaging station near Stratford (1914).
- Eau Pleine River, Little (R);** rises in Clark County, in T. 27 N., R. 1 E., flows southeast 43 miles into Wisconsin River in Portage County, in T. 25 N., R. 7 E.
- Eighteen Mile Creek (L);** rises in Dunn County, in T. 30 N., R. 11 W., flows south and west 7 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in T. 29 N., R. 11 W.
- Elk Creek (L);** rises in Buffalo County, in T. 23 N., R. 10 W., flows west 5 miles into Buffalo River (tributary to Mississippi River) in Buffalo County, in T. 23 N., R. 11 W.
- Elk Creek (R);** rises in Chippewa County, in T. 29 N., R. 9 W., flows south 20 miles into Chippewa River (tributary to Mississippi River) in Dunn County, in T. 26 N., R. 11 W.
- Elk Creek (L);** rises in Dunn County, in T. 27 N., R. 12 W., flows southwest 6 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County, in T. 27 N., R. 13 W.
- Elk Creek (R);** rises in Trempealeau County, in T. 23 N., R. 7 W., flows southwest 18 miles into Trempealeau River (tributary to Mississippi River) in Trempealeau County, in T. 22 N., R. 9 W.
- Elk Creek, Little (R);** rises in Trempealeau County, in T. 23 N., R. 9 W., flows southeast 6 miles into Elk Creek (tributary to Trempealeau River which discharges into Mississippi River) in T. 22 N., R. 9 W.
- Elk Creek, East Fork (L);** rises in Buffalo County, in T. 22 N., R. 10 W., flows northwest 7 miles into Elk Creek (tributary to Buffalo River which discharges into Mississippi River) in Buffalo County, in T. 23 N., R. 10 W.
- Elk Creek, North Fork (R);** rises in Buffalo County, in T. 23 N., R. 9 W., flows southwest 7 miles into Elk Creek (tributary to Buffalo River which discharges into Mississippi River) in Buffalo County, in T. 23 N., R. 10 W.

- Elk River, Big (R);** rises in Price County, in T. 38 N., R. 3 E., flows north 6 miles, then southwest 33 miles into South Fork of Flambeau River (tributary to Flambeau River which discharges into Chippewa River) in Price County, in T. 37 N., R. 2 W.
- Ellis (Hell) Creek (R);** rises in Brown County, in T. 23 N., R. 22 E., flows northwest 5 miles and west 4 miles into East (Devil) River (tributary to Fox River which discharges into Green Bay) in T. 24 N., R. 21 E.
- Embarrass River (R);** rises in Langlade County, in T. 30 N., R. 11 E., flows south 18 miles, east 6 miles, generally southeast 24 miles, through Shawano County, then south and southwest 24 miles, through Outagamie County, into Wolf River (tributary to Fox River which discharges into Green Bay) in Waupaca County, in T. 22 N., R. 14 E.; principal tributaries, South Fork, North Branch, Pigeon River, Bear Creek, and Maple Creek.
- Embarrass River, North Branch (L);** rises in Shawano County, in T. 29 N., R. 11 E., flows southeast 24 miles into Embarrass River (tributary to Wolf River which discharges into Green Bay through Fox River) in T. 26 N., R. 14 E.
- Embarrass River, South Fork (R);** rises in Marathon County, in T. 28 N., R. 10 E., flows generally southeast about 27 miles into Embarrass River (tributary to Wolf River which discharges into Green Bay through Fox River) in Shawano County, in T. 26 N., R. 13 E.
- Evergreen Creek (R);** rises in Langlade County, in T. 31 N., R. 13 E., flows southeast 17 miles into Wolf River (tributary to Fox River which discharges into Green Bay) on Menominee Indian Reservation, Shawano County, in T. 30 N., R. 15 E.
- Fair Play Creek (L);** rises in Grant County, in T. 1 N., R. 2 W., flows southwest 3 miles into Menominee Creek (discharging into Mississippi River through State of Iowa) in Grant County, in T. 1 N., R. 2 W.
- Fall Creek (L);** rises in Pepin County, in T. 25 N., R. 12 W., flows northwest 6 miles into Chippewa River (tributary to Mississippi River) in Dunn County, in T. 26 N., R. 12 W.
- Fancy Creek (R);** rises in Richland County, in T. 12 N., R. 1 W., flows southeast 9 miles into Pine River (tributary to Wisconsin River) in Richland County, in T. 11 N., R. 1 E.
- Farmers Creek (L);** rises in Monroe County, in T. 16 N., R. 3 W., flows northwest 7 miles into La Crosse River (tributary to Mississippi River) in T. 17 N., R. 4 W.
- Farrington Creek (R);** rises in Buffalo County, in T. 24 N., R. 12 W., flows generally northeast 8 miles into Buffalo River (tributary to Mississippi River) in Buffalo County, in T. 24 N., R. 11 W.
- Fennimore Fork (L);** rises in Grant County, in T. 6 N., R. 2 W., flows generally north 16 miles into Blue River (tributary to Wisconsin River) in Grant County, in T. 8 N., R. 1 W.
- Fish Creek (L);** rises in Bayfield County, in T. 46 N., R. 7 W., flows northeast 17 miles into Lake Superior through Chequamegon Bay, 1 mile west of Ashland in Bayfield County, in T. 47 N., R. 4 W.
- Fish Creek (L);** rises in Monroe County, in T. 16 N., R. 4 W., flows northwest  $6\frac{1}{2}$  miles into La Crosse River (tributary to Mississippi River) in La Crosse County, in T. 17 N., R. 5 W.



- Fisher Creek (L);** rises in Crawford County, in T. 8 N., R. 6 W., flows west 4 miles into Mississippi River in Crawford County, in T. 7 N., R. 7 W.
- Fisher River (L);** rises on Taylor County, in T. 32 N., R. 3 W., flows southwest 20 miles into Chippewa River (tributary to Mississippi River) in Chippewa County, in T. 31 N., R. 6 W.
- Flag River;** rises in Bayfield County, in T. 48 N., R. 8 W., flows north and northwest 9 miles into Lake Superior, in Bayfield County, in T. 50 N., R. 8 W.
- Flambeau River (L);** rises in lakes on Lac du Flambeau Indian Reservation, in T. 41 N., R. 4 E., drains a number of lakes, flows northwest 16 miles, then southwest 88 miles into Chippewa River (tributary to Mississippi River) in Rusk County, in T. 33 N., R. 7 W. Gaging stations near Butternut (1914); near Ladysmith (1914); at Ladysmith (1903-1906).
- Flambeau River, South Fork (L);** rises in Lac du Flambeau Indian Reservation, in T. 41 N., R. 4 E., flows southwest 8 miles to Pike Lake,  $\frac{1}{2}$  mile through, into Round Lake, 1 mile through, west 14 miles, southwest 33 miles into Flambeau River (tributary to Chippewa River) in Sawyer County, in T. 37 N., R. 3 W.
- Flat Rock Creek (R);** rises in Grant County, in T. 4 N., R. 5 W., flows east 5 miles into Rattlesnake Creek (tributary to Grant River which discharges into Mississippi River) in Grant County, in T. 3 N., R. 4 W.
- Fleming Creek (L);** rises in La Crosse County, in T. 18 N., R. 5 W., flows generally west 14 miles into Black River (tributary to Mississippi River) in La Crosse County, in T. 18 N., R. 7 W.
- Fond du Lac River;** rises in Fond du Lac County, in T. 16 N., R. 15 E., flows southeast 22 miles to its junction with East Branch, then north 2 miles into Lake Winnebago in Fond du Lac County, in T. 15 N., R. 17 E., at Fond du Lac. Stream known as West Branch of Fond du Lac River between its source and its junction with East Branch. Gaging station near Fond du Lac (1903).
- Fond du Lac River, East Branch (R);** rises in Fond du Lac County, in T. 14 N., R. 17 E., flows northwest 6 miles, northeast 9 miles into Fond du Lac River (which discharges through Lake Winnebago and Fox River into Green Bay) in junction with West Branch of Fond du Lac River in Fond du Lac County at Fond du Lac, in T. 15 N., R. 17 E. Gaging station near Fond du Lac (1903).
- Fond du Lac River, West Branch** (head of Fond du Lac River). See Fond du Lac River.
- Fourmile Creek (R);** rises in Marathon County, in T. 27 N., R. 8 E., flows southwest 9 miles into Wisconsin River in Marathon County, in T. 26 N., R. 7 E.
- Fox Branch (L);** rises in Richland County, in T. 10 N., R. 1 W., flows west  $3\frac{1}{2}$  miles into Eagle Creek (tributary to Wisconsin River) in Richland County, in T. 10 N., R. 1 W.
- Fox River (R);** rises in Waukesha County, in T. 8 N., R. 19 E., flows east 2 miles, south 14 miles to Waukesha, continuing southwest 14 miles, east 7 miles, then generally south through Racine County 18 miles to Burlington, southeast 12 miles, then south 4 miles through Kenosha County in T. 1 N., R. 20 E., into Illinois, where it continues in a south and southwest direction for about 97 miles into Illinois River (tributary to Mississippi

River); drains Spring, Mukwonago, Tichigan, Browns, Eagle, Bohner, Silver, and other small lakes in Wisconsin; principal tributaries in Wisconsin, Pewaukee, Mukwonago, and Muskego Rivers.

**Fox River, Lower;** rises in Green Lake County, in T. 14 N., R. 12 E., flows southwest 15 miles into Swan Lake, 3 miles west through, west 2 miles to Portage, north 13 miles to Buffalo Lake, 7 miles north, west and northwest through Buffalo Lake, 8 miles southeast, 6 miles to Lake Puckaway, 8 miles east through Lake Puckaway then northwest 6 miles and northeast 44 miles into Butte Des Morts Lake, southeast through Butte Des Morts Lake 5 miles, southeast 3 miles into Lake Winnebago at Oshkosh in Winnebago County, in T. 18 N., R. 16 E. Lake Winnebago separates the lower section of Fox River from the upper section. Gaging stations at Rapide Croche Dam (1895-1914); Wrightstown (1902).

**Fox River, Upper;** rises in Winnebago County, in T. 19 N., R. 16 E., flows northeast 6 miles to Neenah, Wis., into Little Lake Butte Des Morts, continuing 4 miles through the lake, northeast 2 miles to Appleton, continuing northeast 30 miles into Green Bay at Green Bay, Wis., in Brown County, in T. 24 N., R. 20 E. Gaging station near Omro (1902-1903); at Oshkosh (1902).

**French Creek (R);** rises in Marquette County, in T. 13 N., R. 10 E., flows generally west 3 miles, south 2 miles, then northwest 2 miles into Fox River (which discharges into Green Bay) in Columbia County, in T. 13 N., R. 9 E.

**French Creek (R);** rises in Trempealeau County, in T. 20 N., R. 8 W., flows south 7 miles into Beaver Creek (tributary to Mississippi River) in Trempealeau County in T. 19 N., R. 8 W.

**French Creek (L);** rises in Jackson County, in T. 21 N., R. 5 W., flows northwest 7 miles into Trempealeau River (tributary to Mississippi River) in T. 21 N., R. 6 W.

**Frog Creek, North (L);** rises in Washburn County, in T. 42 N., R. 10 W., flows west 13 miles into Totagatic River (tributary to Namakagon River which discharges into St. Croix River) in Washburn County, in T. 42 N., R. 11 W.

**Frog Creek, South (L);** rises in Washburn County, in T. 41 N., R. 11 W., flows northwest 6 miles into North Frog Creek (tributary to Totagatic River which discharges into Mississippi River through Namakagon and St. Croix Rivers) in Washburn County, in T. 42 N., R. 11 W.

**Frog River (L);** rises in Bayfield County, in T. 51 N., R. 4 W., flows northeast 5 miles into Lake Superior through West Channel in Bayfield County, in T. 51 N., R. 4 W.

**Galena (Fever) River (L);** rises in Lafayette County, in T. 3 N., R. 1 E., flows south 29 miles into State of Illinois through Lafayette County in T. 1 N., R. 1 E., and continues southwest into Mississippi River.

**Galloway Creek (L);** rises in Rock County, in T. 4 N., R. 14 E., flows north 5 miles into Whitewater Creek (tributary to Black River which discharges into Mississippi River through Rock River) in Jefferson County, in T. 5 N., R. 15 E.

**Gilbert Creek (R);** rises in St. Croix County, in T. 28 N., R. 15 W., flows east 15 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County at Menomonie, in T. 28 N., R. 13 W.



- Gilman Creek (R);** rises in Buffalo County, in T. 23 N., R. 11 W., flows south 2 miles into Buffalo River (tributary to Mississippi River) in Buffalo County, in T. 23 N., R. 11 W.
- Gogogashugun River (L);** rises in Iron County, in T. 44 N., R. 1 E., about 2 miles west of Island Lake which it drains; flows northeast, then southeast for 5 miles, then generally north 19 miles into Montreal River (which discharges into Lake Superior through Oronto Bay) in Iron County, in T. 47 N., R. 2 E.; drains several small lakes.
- Godfreys Creek (L);** rises in Polk County, in T. 37 N., R. 16 W., flows northeast 5 miles into Clam River (tributary to St. Croix River which discharges into Mississippi River) in T. 38 N., R. 16 W.
- Grand River (R);** rises in Fond du Lac County, in T. 15 N., R. 14 E., flows generally east 30 miles into Fox River (which discharges into Green Bay) in Marquette County, in T. 15 N., R. 10 E.
- Grant River (L);** rises in Grant County, in T. 6 N., R. 4 W., flows south 17 miles, southeast 23 miles into Mississippi River in Grant County, in T. 2 N., R. 3 W.
- Grant River, Little (R);** rises in Grant County, in T. 6 N., R. 4 W., flows generally southeast 8 miles into Grant River (tributary to Mississippi River) in T. 4 N., R. 4 W.
- Greenough Creek (L);** rises in Adams County, in T. 20 N., R. 6 E., flows southwest 9 miles, west 7 miles into Wisconsin River in Adams County, in T. 20 N., R. 5 E. (Same as Brignons Creek.)
- Green River (L);** rises in Grant County, in T. 6 N., R. 3 W., flows northwest 12 miles into Wisconsin River in Grant County, in T. 7 N., R. 4 W.
- Green River, Little (L);** rises in Grant County, in T. 6 N., R. 4 W., flows north 5 miles into Green River (tributary to Wisconsin River) in Grant County, in T. 7 N., R. 4 W.
- Gully Creek (L);** rises in Buffalo County, in T. 23 N., R. 13 W., flows southwestward 4 miles into Beef Slough (an arm of Chippewa River which discharges into Mississippi River) in T. 22 N., R. 14 W.
- Hackett Branch (R);** rises in Grant County, in T. 4 N., R. 5 W., flows southeast 5 miles into Grant River (tributary to Mississippi River) in Grant County, in T. 4 N., R. 4 W.
- Hadley Creek (R);** rises in Buffalo County, in T. 23 N., R. 11 W., flows south 2 miles into Elk Creek (tributary to Buffalo River which discharges into Mississippi River) in T. 23 N., R. 11 W.
- Halfway Creek (L);** rises in La Crosse County, in T. 17 N., R. 6 W., flows westward 6 miles, then southwest 5 miles into Black River (tributary to Mississippi River) in T. 17 N., R. 8 W.
- Halfway Prairie Creek (R);** rises in Indian Lake in Dane County, in T. 8 N., R. 7 E., flows west 7 miles into Black Earth Creek (tributary to Wisconsin River) in Dane County, in T. 8 N., R. 6 E.
- Halls Branch (R);** rises in Crawford County, in T. 9 N., R. 5 W., flows east 6 miles into Kickapoo River (tributary to Wisconsin River) in Crawford County, in T. 9 N., R. 4 W.
- Halls Creek (R);** rises in Jackson County, in T. 23 N., R. 4 W., flows southeast 11 miles into Pine Creek (tributary to Black River which discharges into Mississippi River) in Jackson County, in T. 23 N., R. 4 W.

- Haney Valley (R);** rises in Crawford County, in T. 9 N., R. 4 W., flows south 2 miles into Kickapoo River (tributary to Wisconsin River) in Crawford County, in T. 9 N., R. 4 W.
- Harrisons Branch (R);** rises in Vernon County, in T. 12 N., R. 4 W., flows southeast 6 miles into West Branch Kickapoo River (tributary to Kickapoo River which discharges into Wisconsin River) in Vernon County, in T. 12 N., R. 3 W.
- Hawkins Creek (L);** rises in Richland County, in T. 12 N., R. 2 E., flows southwest 6 miles into Pine River (tributary to Wisconsin River) in Richland County, in T. 11 N., R. 1 E.
- Hay Creek (R);** rises in Chippewa County, in T. 29 N., R. 5 W., flows south 18 miles into Eau Claire River (tributary to Chippewa River which discharges into Mississippi River) in Eau Claire County, in T. 26 N., R. 6 W.
- Hay Creek (R);** rises in Chippewa County, in T. 30 N., R. 10 W., flows east 6 miles into Duncan Creek (tributary to Chippewa River which discharges into Mississippi River) in Chippewa County, in T. 30 N., R. 9 W.
- Hay Creek (L);** rises in Clark County, in T. 25 N., R. 4 W., flows generally northward 9 miles into South Fork of Eau Claire River (tributary to Chippewa River which discharges into Mississippi River) in T. 26 N., R. 4 W.
- Hay Creek (R);** rises in Douglas County, in T. 43 N., R. 14 W., flows southwest  $9\frac{1}{2}$  miles into St. Croix River (tributary to Mississippi River) in Burnett County, in T. 42 N., R. 15 W.
- Hay Creek (L);** rises in Dunn County, in T. 26 N., R. 13 W., flows southwest 3 miles into Eau Galle River (tributary to Chippewa River which discharges into Mississippi River) in T. 26 N., R. 13 W.
- Hay Creek (R);** rises in Dunn County, in T. 31 N., R. 12 W., flows east 7 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County, in T. 31 N., R. 11 W.
- Hay Creek (L);** rises in Polk County, in T. 37 N., R. 15 W., flows northwest  $5\frac{1}{2}$  miles into Clam River (tributary to St. Croix River which discharges into Mississippi River) in Burnett County, in T. 38 N., R. 16 W.
- Hay Creek (L);** rises in Sauk County, in T. 13 N., R. 4 E., flows south 6 miles into Baraboo River (tributary to Wisconsin River) in Sauk County, in T. 12 N., R. 4 E.
- Hay River (R);** rises in Barron County in Beaver Lake, in T. 35 N., R. 13 W., flows south 45 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County, in T. 29 N., R. 12 W.
- Hay River, South Fork (R);** rises in Barron County, in T. 32 N., R. 14 W., flows southeast 18 miles into Hay River (tributary to Red Cedar River which discharges into Chippewa River) in Dunn County, in T. 30 N., R. 13 W.
- Hay River, West Branch (R);** rises in St. Croix County, in T. 30 N., R. 16 W., flows northeast, southeast, and east 21 miles into South Fork of Hay River (tributary to Hay River which discharges into Chippewa River through Red Cedar River) in Dunn County, in T. 30 N., R. 14 W.

- Haymeadow Creek (L);** rises in Langlade County, in T. 33 N., R. 9 E., flows west 5 miles, then southwest 11 miles into Prairie River (tributary to Wisconsin River which discharges into Mississippi River) in Lincoln County, in T. 32 N., R. 7 E.
- Heiler Creek (R);** rises in Grant County, in T. 4 N., R. 5 W., flows southeast  $2\frac{1}{2}$  miles into Rattlesnake Creek (tributary to Grant River which discharges into Mississippi River) in Grant County, in T. 4 N., R. 5 W.
- Hell Creek.** See Ellis Creek.
- Hemlock Creek (L);** rises in Wood County, in T. 24 N., R. 4 E., flows southeast 9 miles, southwest  $20\frac{1}{2}$  miles into Yellow River (tributary to Wisconsin River) in Wood County, in T. 21 N., R. 3 E.
- Heron River;** rises in Bayfield County, in T. 50 N., R. 7 W., flows north 5 miles into Lake Superior through Bark Point Bay in Bayfield County, in T. 50 N., R. 7 W.
- Hollow Branch (R);** rises in Grant County, in T. 1 N., R. 1 W., flows southwest 3 miles into Fair Play Creek (tributary to Menominee Creek reaching Mississippi River through State of Illinois) in Grant County, in T. 1 N., R. 1 W.
- Honey Creek (L);** rises in Green County, in T. 2 N., R. 7 E., flows southwest about 12 miles through T. 1 N., R. 6 E., into Pecatonica River (tributary to Rock River which discharges into Mississippi River) in the State of Illinois, a short distance south of the boundary line.
- Honey Creek (R);** rises in Sauk County, in T. 11 N., R. 4 E., flows 17 miles southeast into Wisconsin River in Sauk County, in T. 9 N., R. 6 E.
- Honey Creek (L);** rises in Walworth County in the Landerdale Lakes, in T. 4 N., R. 16 E., flows east 15 miles, then south 6 miles into Sugar Creek (tributary to Fox River which discharges into Mississippi River through Illinois River) in Walworth County, in T. 3 N., R. 18 E.
- Honey Creek, East Branch (L);** rises in Sauk County, in T. 10 N., R. 5 E., flows southeast 7 miles into Honey Creek (tributary to Wisconsin River) in Sauk County, in T. 9 N., R. 5 E.
- Honey Creek, North Branch (L);** head of Honey Creek; rises in Sauk County, in T. 11 N., R. 4 E., flows southeast about 9 miles into Honey Creek at its junction with South Branch, in T. 9 N., R. 5 E.
- Honey Creek, South Branch (R);** rises in Sauk County, in T. 11 N., R. 3 E., flows southeast 16 miles into Honey Creek (tributary to Wisconsin River) in Sauk County, in T. 9 N., R. 5 E.
- Hoosier Creek (L);** rises in Richland County, in T. 10 N., R. 1 W., flows south 6 miles into Eagle Creek (tributary to Wisconsin River) in Richland County, in T. 9 N., R. 1 W.
- Horse Creek (R);** rises in Polk County, in T. 33 N., R. 18 W., flows south and east  $1\frac{1}{2}$  miles to Horse Lake, south 7 miles to Cedar Lake, south 3 miles through Cedar Lake into Apple River (tributary to St. Croix River which discharges into Mississippi River) in Polk County, in T. 31 N., R. 18 W.; also drains East Lake near its head.
- Horse Creek (R);** rises in Richland County, in T. 11 N., R. 1 W., flows southeast 6 miles into Pine River (tributary to Wisconsin River) in Richland County, in T. 10 N., R. 1 E.
- Horse Creek (R);** rises in Vernon County, in T. 12 N., R. 4 W., flows south 15 miles into Kickapoo River (tributary to Wisconsin River) in Crawford County, in T. 10 N., R. 4 W.

- Hoyt's Creek (R);** rises in Eau Claire County, in T. 25 N., R. 10 W., flows southwest 7 miles into Buffalo River (tributary to Mississippi River) in Buffalo County, in T. 24 N., R. 11 W.
- Hughlans Creek (L);** rises in Grant County, in T. 2 N., R. 1 W., flows northwest 8 miles into Blockhouse Creek (tributary to Little Platte River which discharges into the Mississippi River through Platte River) in Grant County, in T. 2 N., R. 2 W.
- Hunter Creek (R);** rises in Pepin County, in T. 25 N., R. 11 W., flows south 3 miles into Hoyt's Creek (tributary to Buffalo River which discharges into Mississippi River) in Buffalo County, in T. 24 N., R. 11 W.
- Hunting Creek (R);** rises in Langlade County, in T. 34 N., R. 10 E., flows southeast 12 miles into Wolf River (tributary to Fox River which discharges into Green Bay) in T. 33 N., R. 12 W.
- Hutchinson Creek (L);** rises in Buffalo County, in T. 23 N., R. 11 W., flows southwest 5 miles into Buffalo River (tributary to Mississippi River) in T. 22 N., R. 12 W.
- Indian Creek (L);** rises in Grant County, in T. 2 N., R. 2 W., flows west 4 miles into Platte River (tributary to Mississippi River) in Grant County, in T. 2 N., R. 2 W.
- Indian Creek (L);** rises in Polk County, in T. 37 N., R. 15 W., flows north 6 miles into Clam River (tributary to St. Croix River which discharges into Mississippi River) in Burnett County, in T. 38 N., R. 15 W.
- Indian Creek (R);** rises in Richland County, in T. 9 N., R. 1 E., flows south  $2\frac{3}{4}$  miles into Wisconsin River in Richland County, in T. 8 N., R. 1 E.
- Irish Valley Creek (L);** rises in Buffalo County, in T. 21 N., R. 10 W., flows southwest  $5\frac{1}{2}$  miles into Big Waumandee River (tributary to Mississippi River) in Buffalo County, in T. 21 N., R. 11 W.
- Iron Creek.** See Levios Creek.
- Iron Ore River, or Iron River (R);** rises in Bayfield County, in T. 47 N., R. 9 W., flows north 18 miles into Lake Superior in T. 50 N., R. 9 W.; drains Spider Lake.
- Irvings Creek (R);** rises in Dunn County, in T. 28 N., R. 14 W., flows southeast 6 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County, in T. 27 N., R. 8 W.
- Isabelle Creek (L);** rises in Pierce County, in T. 26 N., R. 17 W., flows south 13 miles into Lake Pepin (an expansion of Mississippi River) in Pierce County, in T. 24 N., R. 17 W.
- Jackson Creek (L);** rises in Walworth County, in T. 2 N., R. 17 E., flows southwest 5 miles into Delavan Lake (an expansion of Turtle Creek which discharges into Mississippi River through Rock River) in Walworth County, in T. 2 N., R. 16 E.
- Johnson Creek;** rises in Calumet County, in T. 18 N., R. 18 E., flows westward about 1 mile into Lake Winnebago in T. 18 N., R. 18 E.
- Johnson Creek (L);** rises in Jefferson County, in T. 8 N., R. 15 E., flows south 5 miles, southwest 5 miles, then northwest 5 miles into Rock River (tributary to Mississippi River) in Jefferson County, in T. 7 N., R. 14 E.
- Jones Branch (R);** rises in Lafayette County, in T. 4 N., R. 1 E., flows northwest 3 miles into Pecatonica River (tributary to Rock River which discharges into Mississippi River) in T. 4 N., R. 1 E.
- Jordan Creek (R);** rises in Green County, in T. 2 N., R. 7 E., flows east 12 miles into Sugar River (tributary to Rock River which discharges into Mississippi River) in Green County, in T. 1 N., R. 9 E.

**Jordan Creek (R);** rises in Green County, in T. 3 N., R. 6 E., flows south 9 miles into Skinner Creek (tributary to Pecatonica River which discharges into Mississippi River through Rock River) in Green County, in T. 1 N., R. 6 E.

**Jordan Creek, Little (R);** rises in Green County, in T. 7 N., R. 8 E., flows generally east 6 miles into Sugar River (tributary to Pecatonica River which discharges into Mississippi River through Rock River) in T. 1 N., R. 9 E.

**Jordon River;** see Plover River.

**Jug Creek (L);** rises in Vernon County, in T. 13 N., R. 1 W., flows northwest 4 miles into Kickapoo River (tributary to Wisconsin River) in Vernon County, in T. 13 N., R. 2 W.

**Jump River (L);** rises in Price County, in T. 34 N., R. 2 W., formed by junction of North and South Forks, flows southwest 23 miles into Chippewa River (tributary to Mississippi River) in Chippewa County, in T. 32 N., R. 6 W.

**Jump River, North Fork (R);** rises in Price County, in T. 36 N., R. 1 E., in Cranberry Lake; flows southwest 22 miles into Jump River (tributary to Chippewa River which discharges into Mississippi River) in junction with South Fork, in Price County, in T. 34 N., R. 2 W.

**Jump River, South Fork (L);** rises in Price County, in T. 37 N., R. 3 E., flows southwest 42 miles into Jump River (tributary to Chippewa River which discharges into Mississippi River) in Price County, in T. 34 N., R. 2 W., in junction with North Fork.

**Kakaugon Creek (L);** rises in Ashland County, in T. 47 N., R. 5 W., flows northeast 15 miles, then northwest 3 miles into Lake Superior, through Chequamegon Bay in T. 48 N., R. 3 W.

**Kelly Brook (R);** head of Little River; rises in Oconto County, in T. 29 N., R. 18 E., flows southeast 9 miles, then northeast 9 miles into Little River (which discharges into Green Bay through Oconto River) in T. 29 N., R. 20 E.; drains Kelly Lake.

**Kelsey Branch (L);** rises in Lafayette County, in T. 1 N., R. 2 E., flows generally westward 4 miles into Galena River (tributary to Mississippi River) in T. 1 N., R. 1 E.

**Kenyon Creek (R);** rises in Sawyer County, in T. 38 N., R. 6 W., flows southwest 10 miles into Brunette River (tributary to Chippewa River which discharges into Mississippi River) in T. 37 N., R. 6 W.

**Kewaunee River;** rises in Brown County, in T. 24 N., R. 22 E., flows northeast 6 miles, southeast 14 miles, northeast 3 miles, then southeast 2 miles into Lake Michigan in Kewaunee County, in T. 23 N., R. 25 E.

**Kickapoo Creek, Little (R);** rises in Crawford County, in T. 8 N., R. 6 W., flows southeast 6 miles into Wisconsin River in T. 7 N., R. 5 W.

**Kickapoo River (R);** rises in Monroe County, in T. 16 N., R. 1 W., flows southeast 90 miles into Wisconsin River in Crawford County, in T. 7 N., R. 4 W. Gaging station at Gays Mills (1913-1914).

**Kickapoo River, West Branch (R);** rises in Monroe County, in T. 15 N., R. 3 W., flows south  $23\frac{1}{2}$  miles into Kickapoo River (tributary to Wisconsin River) in Vernon County, in T. 12 N., R. 3 W.

**Killsnake Creek (L);** rises in Calumet County, in T. 19 N., R. 19 E., flows generally southeast 6 miles, then east 6 miles into Manitowoc River (which discharges into Lake Michigan) in T. 18 N., R. 20 E.

**Kinney's Creek (L);** rises in Monroe County, in T. 15 N., R. 1 W., flows west  $2\frac{1}{2}$  miles into Kickapoo River (tributary to Wisconsin River) in Monroe County, in T. 15 N., R. 2 W.

**Kinnikinnic River**; rises in Milwaukee County, in T. 6 N., R. 22 E., flows northwest 5 miles, east 2 miles, then generally northeast 3 miles into Lake Michigan through Milwaukee Bay in junction with Milwaukee and Menomonee Rivers in Milwaukee County, in T. 7 N., R. 22 E.

**Kinnikinnic River (L)**; rises in St. Croix County, in T. 28 N., R. 17 W., flows northwest 4 miles, then southwest 15 miles into Lake St. Croix (tributary to Mississippi River) in Pierce County, in T. 27 N., R. 19 W.

**Knapps Creek (R)**; rises in Richland County, in T. 11 N., R. 2 W., flows south 21 miles into Wisconsin River in Crawford County, in T. 8 N., R. 3 W.

**Kniffen Creek (R)**; rises in Buffalo County, in T. 22 N., R. 10 W., flows southeast 5 miles into Trempealeau River (tributary to Mississippi River) in Trempealeau County, in T. 21 N., R. 9 W.

**Knights Creek (L)**; rises in Dunn County, in T. 27 N., R. 14 W., flows southeast 9 miles into Eau Galle River (tributary to Chippewa River which discharges into Mississippi River) in T. 26 N., R. 14 W.; tributary to Beaver Creek.

**Kohlsville River (R)**; rises in Washington County, in T. 11 N., R. 19 E., flows northwest 7 miles into Rock River (tributary to Mississippi River) in Washington County, in T. 12 N., R. 18 E.

**Koshkonong Creek (R)**; rises in Dane County, in T. 8 N., R. 11 E., flows southwest 2 miles, southeast 21 miles, then south 17 miles into Lake Koshkonong (which discharges into Mississippi River through Rock River) in Jefferson County, in T. 5 N., R. 13 E.

**Kuenster Creek (R)**; rises in Grant County, in T. 4 N., R. 6 W., flows south 3 miles, then east 4 miles into Rattlesnake Creek (tributary to Grant River which discharges into Mississippi River) in Grant County, in T. 4 N., R. 5 W.

**La Crosse River (L)**; rises in Monroe County, in T. 19 N., R. 2 W., flows southwest 18 miles to Sparta, continues southwest 30 miles into Mississippi River at La Crosse, in La Crosse County, in T. 16 N., R. 7 W. Gaging station near West Salem (1913-1914).

**La Crosse River, Little (L)**; rises in Monroe County, in T. 15 N., R. 3 W., flows northwest 18 miles into La Crosse River (tributary to Mississippi River) in Monroe County, in T. 17 N., R. 4 W.

**Lambs Creek (R)**; rises in Dunn County, in T. 29 N., R. 13 W., flows southeast 8 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County, in T. 29 N., R. 12 W.

**Lemonweir River (R)**; rises in Jackson County, in T. 20 N., R. 1 W., flows south 14 miles, southeast 27 miles to Mauston, continuing southeast 13 miles into Wisconsin River in Juneau County, in T. 15 N., R. 5 E.

**Lemonweir River, Little (R)**; rises in Monroe County, in T. 16 N., R. 1 E., flows east 15 miles into Lemonweir River (tributary to Wisconsin River which discharges into Mississippi River) in Juneau County, in T. 16 N., R. 3 E.

**Lemonweir River, South Fork (R)**; rises in Monroe County, in T. 17 N., R. 2 W., flows northeast 7 miles into Deer Creek (tributary to Lemonweir River which discharges into Wisconsin River) in Monroe County, in T. 18 N., R. 1 W.



**Levios Creek** (L); rises in Jackson County, in T. 20 N., R. 2 W., flows northwest 12 miles into Black River (tributary to Mississippi River) 1 mile above Black River Falls, in Jackson County, in T. 21 N., R. 4 W. Also called Iron Creek.

**Lewis Valley.** See Fleming Creek; La Crosse County; T. 18 N., R. 5 W.

**Lilly Creek** (L); rises in Forest County, in T. 34 N., R. 14 E., in Lake Roberts, flows south  $8\frac{1}{2}$  miles into Wolf River (tributary to Fox River which discharges into Green Bay) in Langlade County, in T. 33 N., R. 13 E.

**Little Dear Creek.** See Dear Creek, Little.

**Little Eau Galle River.** Name of head of Eau Galle River.

**Little Elk Creek.** See Elk Creek, Little.

**Little Grant River.** See Grant River, Little.

**Little Jump River** (R); rises in Rusk County, in T. 34 N., R. 3 W., flows southwest 17 miles into Jump River (tributary to Chippewa River) in Rusk County, in T. 33 N., R. 5 W.

**Little Potato River** (R); rises in Iron County, in T. 46 N., R. 1 E., flows northwest about 3 miles, then west and south 3 miles into Potato River (tributary to Bad River which discharges into Lake Superior) in T. 46 N., R. 1 W.

**Little River** (L); rises in Oconto County, in T. 29 N., R. 18 E., flows east  $20\frac{1}{2}$  miles, south 13 miles into Oconto River (which discharges into Green Bay) in Oconto County, in T. 28 N., R. 21 E.

**Little River** (R); rises in Waupaca County, in T. 21 N., R. 11 E., flows east 15 miles into Wolf River (tributary to Fox River which discharges into Green Bay) in Waupaca County, in T. 21 N., R. 13 E. Same as Valla Valla Creek.

**Little Weirgor Creek.** See Weirgor Creek, Little.

**Livingston Creek** (R); rises in Jefferson County, in T. 7 N., R. 15 E., flows south 3 miles into Johnson Creek (tributary to Rock River which discharges into Mississippi River) in Jefferson County, in T. 7 N., R. 15 E.

**Lords Creek** (R); rises in State of Minnesota, in T. 48 N., R. 16 W., flows east 4 miles into Douglas County, Wisconsin, in T. 48 N., R. 15 W., then northeast 4 miles into St. Louis River (which enters Lake Superior by way of Superior Bay through St. Louis Bay) in T. 48 N., R. 15 W.

**Lost Creek** (R); rises in Pierce County, in T. 27 N., R. 17 W., flows southeast 9 miles into Rush River (which discharges into Lake Pepin, an expansion of Mississippi River) in Pierce County, in T. 26 N., R. 16 W.

**Lowell Branch** (R); rises in Bayfield County, in T. 44 N., R. 8 W., flows south 6 miles into Namakagon River (tributary to St. Croix River which discharges into Mississippi River) in Bayfield County, in T. 43 N., R. 8 W.

**Lower Pine Creek.** See Pine Creek; Barron County.

**Lows Creek** (L); rises in Eau Claire County, in T. 25 N., R. 8 W., flows northwest 15 miles into Chippewa River (tributary to Mississippi River) in Eau Claire County, in T. 27 N., R. 10 W.

**Lunch Creek** (R); rises in Waushara County, in T. 18 N., R. 9 E., flows southeast 14 miles into White River (tributary to Fox River which discharges into Green Bay) in Marquette County, in T. 17 N., R. 11 E.

- McAdams Branch (L)**; rises in Grant County, in T. 2 N., R. 1 W., flows northwest 5 miles into Little Platte River (tributary to Platte River which discharges into Mississippi River) in Grant County, in T. 2 N., R. 2 W.
- McCartney Branch (L)**; rises in Grant County, in T. 3 N., R. 5 W., flows southeast 7 miles into Mississippi River in Grant County, in T. 2 N., R. 4 W.
- Mad Creek (L)**; rises in Monroe County, in T. 18 N., R. 2 W., flows southeast 10 miles into Deer Creek (tributary to Lemonweir River which discharges into Wisconsin River) in Monroe County, in T. 18 N., R. 1 E.
- Madden Branch (L)**; rises in Lafayette County, in T. 2 N., R. 2 E., flows southwest 7 miles into Galena River (tributary to Mississippi River) in Lafayette County, in T. 2 N., R. 1 E.
- Main Creek (L)**; rises in Rusk County, in T. 36 N., R. 2 W., flows southwest 36 miles into Jump River (tributary to Chippewa River) in Chippewa County, in T. 32 N., R. 6 W.
- Maine River (L)**; rises in Manitowoc County in Pigeon Lake, in T. 18 N., R. 22 E., flows south 8 miles into Pigeon River (which discharges into Lake Michigan) in Sheboygan County, in T. 16 N., R. 22 E.
- Manitowoc River**; rises in Calumet County, in T. 19 N., R. 19 E., flows north 6 miles, southeast 20 miles, northeast 14 miles, then southeast and east 10 miles into Lake Michigan at Manitowoc in Manitowoc County, in T. 19 N., R. 24 E.
- Manitowoc River, South Branch (R)**; rises in Fond du Lac County, in T. 16 N., R. 18 E., flows northeast 24 miles into Manitowoc River (which discharges into Lake Michigan) in Calumet County, in T. 19 N., R. 20 E.
- Manitowish River (L)**; rises in Vilas County, in T. 42 N., R. 8 E., flows west 11 miles to Boulder Lake, 2 miles through, west 7 miles into Island and other small lakes, 4 miles through, west 10 miles through other small lakes, southwest 17 miles into Flambeau River (tributary to Chippewa River) in Iron County, in T. 41 N., R. 2 E.
- Maple Creek (R)**; rises in Waupaca County, in T. 23 N., R. 14 E., flows east 6 miles into Embarrass River (tributary to Wolf River, a branch of Fox River which discharges into Green Bay) in Outagamie County, in T. 23 N., R. 15 E.
- Marlow Branch (L)**; rises in Grant County, in T. 4 N., R. 3 W., flows southwest  $4\frac{1}{4}$  miles into Grant River (which discharges into Mississippi River) in Grant County, in T. 3 N., R. 4 W.
- Marengo (Maringouin) River (L)**; rises in Ashland County, in T. 44 N., R. 4 W., follows a very irregular course northwestward through Bayfield for about 14 miles, then northeast through Ashland County for 18 miles, into Bad River (which discharges into Lake Superior) in T. 46 N., R. 3 W.
- Marsh Creek (L)**; rises in Iowa County, in T. 8 N., R. 2 E., flows northwest 7 miles into Wisconsin River in Iowa County, in T. 8 N., R. 1 E.
- Marsh Creek (L)** rises in Rock County, in T. 2 N., R. 10 E., flows southwest 5 miles into Taylor Creek (tributary to Sugar River which discharges into Mississippi River through Rock River) in Rock County, in T. 2 N., R. 10 E.
- Marsh Creek (R)**; rises in Rock County, in T. 3 N., R. 11 E., flows east 11 miles into Rock River (tributary to Mississippi River) in Rock County, in T. 3 N., R. 12 E.



- Mary Dean Slough** (L); 2 miles long; rises in Dunn County, flows into Chippewa River (tributary to Mississippi River) in Dunn County, in T. 26 N., R. 11 W.
- Mason Creek** (L); rises in Washington County, in T. 9 N., R. 18 E., flows southeast 3 miles into North Lake (an expansion of Oconomowoc River which discharges into Mississippi River through Rock River) in T. 8 N., R. 18 E.
- Meadow Creek** (L); rises in Marathon County, in T. 26 N., R. 8 E., flows southwest 14 miles into Wisconsin River in Portage County, in T. 24 N., R. 7 E.
- Meadow Creek** (R); rises in Lincoln County, in T. 33 N., R. 7 E., flows southwest 3 miles, then southeast 6 miles into Prairie River (tributary to Wisconsin River which discharges into Mississippi River) in T. 32 N., R. 7 E.
- Mecan River** (L); rises in Waushara County, in T. 18 N., R. 8 E., flows southeast 24 miles into Fox River (which discharges into Green Bay) in Marquette County, in T. 15 N., R. 11 E.
- Melanchton Creek** (L); rises in Vernon County, in T. 13 N., R. 1 E., flows south 5 miles into Pine River in Richland County, in T. 12 N., R. 1 E.
- Menominee River**; formed by junction of Michigamme and Brule Rivers on the boundary between Michigan and Wisconsin, in Florence County, in T. 40 N., R. 18 E., flows southeast 40 miles, south 69 miles to Marinette and into Green Bay in Marinette County, in T. 30 N., R. 23 E.; forms boundary line between Michigan and Wisconsin. Gaging stations near Iron Mountain (1902–1914); Lower Quinesec Falls (1898–1899); Koss (1907–1909, 1914); Rapids Power Plant (1913–1914).
- Menomonee River** (R); rises in Washington County, in T. 9 N., R. 20 E., flows southwest 5 miles, then southeast 23 miles into Lake Michigan in junction with Milwaukee River at Milwaukee in Milwaukee County, in T. 7 N., R. 22 E.
- Menomonie Creek** (L); rises in Grant County, in T. 2 N., R. 2 W., flows south 7 miles into State of Illinois (discharging into Mississippi River) through Grant County, in T. 1 N., R. 2 W.
- Middle Branch** (L); rises in Langlade County, in T. 30 N., R. 11 E., flows south 20 miles, southeast 17 miles into Embarrass River (tributary to Wolf River, which discharges into Green Bay through Fox River) in Shawano County, in T. 26 N., R. 13 E. Head of Embarrass River; see Embarrass River.
- Middle (Cottonwood) River**; rises in Douglas County, in T. 46 N., R. 12 W., flows in general northward 24 miles into Lake Superior in T. 49 N., R. 12 W.
- Mile Creek** (L); rises in Chippewa County, in T. 30 N., R. 10 W., flows southwest 8 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County, in T. 29 N., R. 11 W.
- Mill Creek** (L); rises in Grant County, in T. 6 N., R. 4 W., flows northwest 7 miles into Wisconsin River in Grant County, in T. 7 N., R. 5 W.
- Mill Creek** (L); rises in Iowa County, in T. 6 N., R. 4 E., flows northeast 15 miles, then west 4 miles into Wisconsin River in Iowa County, in T. 8 N., R. 4 E.

- Mill Creek (R);** rises in Monroe County, in T. 18 N., R. 2 W., flows east 12 miles into Lemonweir River (tributary to Wisconsin River) in Monroe County, in T. 18 N., R. 1 E.
- Mill Creek (L);** rises in Shawano County, in T. 28 N., R. 13 E., flows southeast 16 miles into Embarrass River (tributary to Wolf River which discharges into Green Bay through Fox River) in Shawano County, in T. 26 N., R. 14 E.
- Mill Creek (R);** rises in Wood County, in T. 25 N., R. 3 E., flows generally southeast 36 miles into Wisconsin River in Portage County, in T. 23 N., R. 7 E.
- Mill Creek;** rises in Calumet County, in T. 19 N., R. 18 E., flows southwest 5 miles into Lake Winnebago (which discharges into Green Bay through Fox River) in Calumet County, in T. 19 N., R. 18 E.
- Milwaukee River;** rises in Fond du Lac County, in T. 14 N., R. 20 E., flows south 25 miles through Washington County, to West Bend, continuing east 7 miles, northeast 8 miles, south 34 miles into Lake Michigan at Milwaukee in Milwaukee County, in T. 7 N., R. 22 E. Gaging station near Milwaukee (1914).
- Milwaukee River, East Branch (L);** rises in Sheboygan County, in T. 14 N., R. 21 E., flows south 20 miles into Milwaukee River (which discharges into Lake Michigan) in Ozaukee County, in T. 12 N., R. 21 E. Same as Stoney Creek and North Branch Milwaukee River.
- Milwaukee River, West Branch (R);** rises in Fond du Lac County, in T. 14 N., R. 17 E., flows southeast 15 miles into Milwaukee River (which discharges into Lake Michigan) in Washington County, in T. 12 N., R. 19 E.
- Mineral Point Branch (L);** rises in Iowa County, in T. 6 N., R. 2 E., flows south 22 miles into Pecatonica River (tributary to Rock River which discharges into Mississippi River) in Lafayette County, in T. 3 N., R. 2 E.
- Mishicot Creek.** See Twin River, East.
- Missouri Creek (R);** rises in Pierce County, in T. 26 N., R. 15 W., flows east and southeast 10 miles, through Dunn and Pepin Counties into Eau Galle River (tributary to Chippewa River which discharges into Mississippi River) in T. 25 N., R. 14 W.
- Mitchell Creek (R);** rises in Monroe County, in T. 15 N., R. 2 W., flows southeast 5 miles into Kickapoo River (tributary to Wisconsin River) in Monroe County, in T. 15 N., R. 2 W.
- Moccasin Creek (R);** rises in Wood County, in T. 24 N., R. 5 E., flows south 14 miles into Wisconsin River in Wood County, in T. 21 N., R. 5 E.
- Mondeaux Creek (R);** rises in Taylor County, in T. 33 N., R. 1 E., flows south 4 miles, then northwest 9 miles into South Fork of Jump River (tributary to Jump River which discharges into Mississippi River through Chippewa River) in Price County, in T. 34 N., R. 1 W.
- Montello Creek (L);** rises in Adams County, in T. 17 N., R. 7 E., flows east 12 miles, south 12 miles into Fox River (which discharges into Green Bay) at Montello in Marquette County, in T. 15 N., R. 10 E.
- Montreal River;** rises in Iron County, in T. 43 N., R. 3 E., flows north 9 miles through Pine Lake, northwest 30 miles into Lake Superior through Oronto Bay, in T. 47 N., R. 1 E.; forms boundary between Michigan and Wisconsin.

**Moore's Creek;** Clark County. Same as Rock Creek.

**Moose Creek (R);** rises in Douglas County, in T. 45 N., R. 12 W., flows south 15 miles into St. Croix River (tributary to Mississippi River) in Douglas County, in T. 44 N., R. 13 W.

**Moose River (L);** rises in Ashland County, in T. 43 N., R. 3 W., flows southwest 21 miles into West Fork Chippewa River (tributary to Chippewa River which discharges into Mississippi River) in Sawyer County, in T. 41 N., R. 6 W.

**Moose Ear Creek.** Same as Shetek River.

**Mormon Coulé, or Creek (L);** rises in La Crosse County, in T. 15 N., R. 5 W., flows west 13 miles into Mississippi River in La Crosse County, in T. 15 N., R. 7 W.

**Morrison Branch (R);** rises in Grant County, in T. 5 N., R. 3 W., flows southeast 4 miles into Platte River (tributary to Mississippi River) in T. 4 N., R. 2 W.

**Morrison Creek (L);** rises in Jackson County, in T. 20 N., R. 1 E., flows northwest 19 miles into Black River (tributary to Mississippi River) in Jackson County, in T. 22 N., R. 3 W.

**Mosher Creek (L);** rises in Fond du Lac County, in T. 16 N., R. 16 E., flows northeast  $3\frac{1}{2}$  miles into Lake Winnebago (which discharges into Green Bay through Fox River) in Fond du Lac County, in T. 16 N., R. 17 E.

**Mosquito Creek (L);** rises in Sawyer County, in T. 41 N., R. 8 W., flows west 5 miles into Namakagon River (tributary to St. Croix River which discharges into Mississippi River) in Sawyer County, in T. 41 N., R. 9 W.

**Mud Creek;** rises in Calumet County, in T. 19 N., R. 18 E., flows southwest 3 miles into Lake Winnebago (which discharges into Green Bay through Fox River) Mud Lake Harbor, in Calumet County, in T. 18 N., R. 18 E.

**Mud Creek (R);** rises in Dane County, in T. 6 N., R. 12 E., flows northeast 6 miles into Koshkonong Creek (which discharges into Mississippi River through Rock River) in Dane County, in T. 7 N., R. 12 E.

**Mud Creek (R);** rises in Dunn County, in T. 29 N., R. 11 W., flows south 15 miles into Chippewa River (tributary to Mississippi River) in Dunn County, in T. 26 N., R. 12 W.

**Mud Creek (L);** rises in Outagamie County, in T. 21 N., R. 17 E., flows south 7 miles into Fox River (which discharges into Green Bay) in Winnebago County, in T. 20 N., R. 17 E.

**Mud Creek or Devil Creek (R);** rises in Rusk County, in T. 35 N., R. 9 W., flows northeast 5 miles, then southeast 9 miles into Chippewa River (tributary to Mississippi River) in T. 35 N., R. 7 W.; drains several small lakes.

**Mud (North Mud) Creek (L);** rises in Brown County, in T. 21 N., R. 20 E., flows south  $14\frac{1}{2}$  miles into Manitowoc River (which discharges into Lake Michigan) in Manitowoc County, in T. 19 N., R. 21 E.

**Mud Creek (L);** rises in Waushara County, in T. 20 N., R. 13 E., flows south 6 miles into Pine River (tributary to Fox River through Lake Poygan) in T. 19 N., R. 13 E.

**Muddy Creek (L);** rises in Grant County, in T. 4 N., R. 5 W., flows southwest 3 miles into Mississippi River in Grant County, in T. 3 N., R. 6 W.

**Muir Creek** (R); rises in Buffalo County, in T. 21 N., R. 10 W., flows south 6 miles into Trempealeau River (tributary to Mississippi River) in Buffalo County, in T. 20 N., R. 10 W.

**Mukwonago River** (R); rises in Walworth County, in T. 4 N., R. 17 E., flows southeast 2 miles, generally northeast 2 miles through Lulu Lake, north 1 mile into Eagle Lake,  $\frac{1}{2}$  mile through, east 4 miles into Millpond,  $1\frac{1}{2}$  miles through, northeast 2 miles into Fox River (tributary to Illinois River which discharges into Mississippi River) in Waukesha County, in T. 5 N., R. 19 E.; drains Lakes Beulah, Pickerel, Phantom, and other small lakes.

**Mullet River** (R); rises in Fond du Lac County, in T. 15 N., R. 19 E., flows northeast 14 miles, south 6 miles and east 9 miles into Sheboygan River (which discharges into Lake Michigan) in Sheboygan County, in T. 15 N., R. 22 E.

**Murphy Creek**; rises in Dane County, in T. 7 N., R. 9 E., flows northeast  $1\frac{1}{2}$  miles into Lake Monona (one of a group of lakes drained by Yahara River, tributary to Rock River which discharges into Mississippi River) in T. 7 N., R. 9 E. This creek has been dredged to form a passageway between Lake Wingra and Lake Monona.

**Muskrat Creek** (R); rises in Chippewa County, in T. 28 N., R. 5 W., flows southwest 13 miles into Eau Claire River (tributary to Chippewa River which discharges into Mississippi River) in Eau Claire County, in T. 26 N., R. 6 W.

**Nail Creek** (L); rises in Sawyer County, in T. 38 N., R. 5 W., flows southwest 13 miles into Chippewa River (tributary to Mississippi River) in Rusk County, in T. 36 N., R. 7 W.

**Namakagon River** (L); rises in Bayfield County, Namakagon Lake, in T. 43 N., R. 6 W., flows southwest 42 miles, northwest 22 miles into St. Croix River (tributary to Mississippi River) in Burnett County, in T. 42 N., R. 15 W. Gaging station near Trego (1914).

**Narrows Creek** (R); rises in Sauk County, in T. 12 N., R. 3 E., flows generally east 15 miles into Baraboo River (tributary to Wisconsin River) in Sauk County, in T. 12 N., R. 5 E.

**Neenah Creek** (L); rises in Adams County, in T. 16 N., R. 7 E., flows south 18 miles, east 7 miles into Fox River (which discharges into Green Bay) in Columbia County, in T. 13 N., R. 9 E.

**Nemacagon.** See Namakagon River.

**Nemadji River** (L); rises in State of Minnesota and flows northeast about 9 miles, coming into Douglas County, Wisconsin, in T. 47 N., R. 15 W., flows northeast 11 miles into Black River (which discharges into Lake Superior through Superior Bay) in T. 47 N., R. 14 W.

**Neshonok Coulé** (R); rises in La Crosse County, in T. 17 N., R. 6 W., flows south 6 miles into La Crosse River (tributary to Mississippi River) in La Crosse County, in T. 17 N., R. 6 W.

**Neshota Creek.** See Twin River, West.

**Newell Creek** (R); rises in Grant County, in T. 6 N., R. 2 W., flows south 5 miles into Platte River (tributary to Mississippi River) in Grant County, in T. 5 N., R. 2 W.

**New Wood River** (R); rises in Lincoln County, in T. 34 N., R. 4 E., flows southeast 15 miles into Wisconsin River in T. 32 N., R. 5 E.

**Nimakagan.** See Namakagon River.

- Nine Springs Creek** (R); rises in Dane County, in T. 6 N., R. 9 E., flows northeast 6 miles into Yahara River (tributary to Rock River which discharges into Mississippi River) in Dane County, in T. 7 N., R. 10 E.
- Nippersink Creek** (L); rises in Walworth County, in T. 1 N., R. 17 E., flows northeast 3 miles, southeast 7 miles through T. 1 N., R. 18 E., into the State of Illinois, where it continues southeast about 12 miles into Fox River; drains Powers Lake in Walworth County, in T. 1 N., R. 18 E.
- Norkosky Creek**; rises in Winnebago County, in T. 18 N., R. 16 E., flows north  $1\frac{1}{2}$  miles into Lake Winnebago (which discharges into Green Bay through Fox River) in Winnebago County, in T. 18 N., R. 16 E.
- North Branch** (L); rises in Shawano County, in T. 29 N., R. 11 E., flows southeast 26 miles into Embarrass River (tributary to Wolf River which discharges into Green Bay through Fox River) in Shawano County, in T. 26 N., R. 14 E. See Embarrass River, North Branch.
- North Creek** (L); rises in Rock County, in T. 2 N., R. 10 E., flows south 4 miles, then west 6 miles into Taylor Creek (tributary to Sugar River which discharges into Mississippi River through Rock River) in Rock County, in T. 1 N., R. 10 E.
- North Inlet** (L); rises in Marinette County, in T. 34 N., R. 20 E., flows southeast 4 miles, then southwest 2 miles into Eagle Nest River (tributary to Peshtigo River which discharges into Green Bay) in T. 33 N., R. 20 E.
- Norway Creek** (L); rises in Buffalo County, in T. 23 N., R. 13 W., flows north 4 miles into Little Dear Creek (tributary to Beef Slough which discharges into Mississippi River) in Buffalo County, in T. 23 N., R. 13 W.
- Norwegian Creek** (L); rises in Rock County, in T. 3 N., R. 10 E., flows southwest  $6\frac{1}{2}$  miles into Sugar River (tributary to Rock River which discharges into Mississippi River) in Green County, in T. 2 N., R. 9 E.
- Oak Creek**; rises in Milwaukee County, in T. 5 N., R. 21 E., flows northeast 9 miles, southeast 2 miles into Lake Michigan at South Milwaukee in Milwaukee County, in T. 5 N., R. 22 E.
- Oconomowoc River** (L); rises in Washington County, in T. 10 N., R. 19 E., flows southwest 32 miles into Rock River (tributary to Mississippi River) in Jefferson County, in T. 8 N., R. 16 E.
- Oconomowoc River, Little** (R); rises in Washington County, in T. 9 N., R. 18 E., flows south 6 miles into North Lake, an expansion of Oconomowoc River (tributary to Rock River which discharges into Mississippi River) in Waukesha County, in T. 8 N., R. 16 E.
- Oconto River** (R); rises in a number of small lakes in Forest County, in T. 34 N., R. 14 E., flows northeast 5 miles, southeast 18 miles, south 37 miles, east 26 miles to Oconto, 2 miles east into Green Bay in Oconto County, in T. 28 N., R. 22 E. Gaging stations near Gillett (1906–1909) (1914); near Stiles (1906).
- O'Neil Creek** (R); rises in Chippewa County, in T. 32 N., R. 9 W., flows south  $18\frac{1}{2}$  miles into Chippewa River (tributary to Mississippi River) in Chippewa County, in T. 29 N., R. 8 W.
- O'Neill Creek** (L); rises in Clark County, in T. 26 N., R. 1 W., flows generally southwest and west 13 miles into Black River (tributary to Mississippi River) in T. 24 N., R. 2 W.

**Onion (Union) River (R);** rises in Sheboygan County, in T. 15 N., R. 21 E., flows southeast 17 miles, northeast 12 miles into Sheboygan River (which discharges into Lake Michigan) in Sheboygan County, in T. 15 N., R. 22 E.

**Ore Creek (L);** rises in Walworth County, in T. 3 N., R. 17 E., flows generally southeast 6 miles then slightly northeast 3 miles into White River (tributary to Sugar River which discharges into Mississippi River through Fox and Illinois Rivers) in Walworth County, in T. 2 N., R. 18 E.

**Oregon Branch.** Head of Waukoma Creek.

**Oronto River (L);** rises in Iron County, in T. 46 N., R. 1 E., flows northwest 7 miles into Lake Superior through Oronto Bay, in T. 47 N., R. 1 W.

**Osceola Creek (L);** rises in Osceola Lake in Polk County, in T. 32 N., R. 18 W., flows northwest 2 miles, southwest 2 miles into St. Croix River (tributary to Mississippi River) in Polk County, in T. 33 N., R. 19 W.

**Otter Creek (R);** rises in Crawford County, in T. 9 N., R. 5 W., flows southeast 7 miles into Kickapoo River (tributary to Wisconsin River) in Crawford County, in T. 8 N., R. 4 W.

**Otter Creek (L);** rises in Dunn County, in T. 31 N., R. 12 W., flows south 9 miles into Hay River (tributary to Red Cedar River which discharges into Mississippi River through Chippewa River) in Dunn County, in T. 30 N., R. 12 W.

**Otter Creek (R);** rises in Forest County, in T. 35 N., R. 15 E., flows southeast 13 miles into Peshtigo River (which discharges into Green Bay) in Marinette County, in T. 34 N., R. 17 E.; drains Otter Lake.

**Otter Creek (L);** rises in Iowa County, in T. 6 N., R. 1 E., flows northeast  $16\frac{1}{2}$  miles into Wisconsin River in Iowa County, in T. 8 N., R. 3 E.

**Otter Creek (L);** rises in Rock County, in T. 4 N., R. 14 E., flows northwest 12 miles into Lake Koshkonong in Jefferson County, in T. 5 N., R. 13 E.

**Otter Creek (R);** rises in Sauk County, in T. 11 N., R. 6 E., flows south 14 miles into Henry Creek in Sauk County, in T. 9 N., R. 6 E.

**Otter Creek (R);** rises in Vernon County, in T. 13 N., R. 3 W., flows southeast  $4\frac{1}{2}$  miles into Kickapoo River in Vernon County, in T. 13 N., R. 2 W.

**Otter Creek, Big (L);** rises in Iowa County, in T. 5 N., R. 3 E., flows south 17 miles into Pecatonica River (tributary to Rock River which discharges into Mississippi River) in Lafayette County, in T. 2 N., R. 4 E.

**Otter Creek, Little (R);** see Ames Branch.

**Ox Creek (L);** rises in Douglas County, in T. 45 N., R. 10 W., flows southwest 9 miles into St. Croix River, in Douglas County, in T. 44 N., R. 11 W.

**Paint Creek (L);** rises in Chippewa County, in T. 28 N., R. 6 W., flows southward 3 miles, then northeastward 12 miles into Chippewa River (tributary to Mississippi River) in T. 28 N., R. 8 W.

**Pats Creek (L);** rises in Lafayette County, in T. 3 N., R. 1 E., flows south 6 miles into Galena River (tributary to Mississippi River) in Lafayette County, in T. 2 N., R. 1 E.

**Pecatonica River (R);** rises in Iowa County, in T. 6 N., R. 1 E., flows



southeast 66 miles into State of Illinois through Lafayette and Green Counties, T. 1 N., R. 6 E., continues southeast about 22 miles, northeast 24 miles into Rock River (tributary to Mississippi River). Gaging station at Dill (Ramona P. O.) (1914).

**Pecatonica River, West:** head of Pecatonica River. See Pecatonica River.

**Pecatonica River, East (L);** rises in Dane County, in T. 6 N., R. 6 E., flows south 35 miles into Pecatonica River (through Iowa and Lafayette Counties) in T. 1 N., R. 5 E.

**Pecatonica River, East, West Branch.** See West Blue Mounds Branch.

**Pecatonica River, East, East Branch.** See East Blue Mounds Branch.

**Pelican River (L);** rises in a series of small lakes in Oneida County, in T. 34 N., R. 9 E., flows northwest 25 miles into Wisconsin River at Rhineland in Oneida County, in T. 36 N., R. 9 E.; drains Enterprise, Pelican, North Pelican, and Moen Lakes, Lake George and many other small lakes.

**Pembiné (Peme Bon Won) River (R);** rises in Marinette County, in T. 38 N., R. 19 E., flows southeast 27 miles into Menominee River (which discharges into Green Bay) in Marinette County, in T. 37 N., R. 22 E.

**Pensaukee River;** rises in Shawano County, in T. 26 N., R. 17 E., flows northeast 1 mile, southeast 2 miles, southwest 2 miles, then generally northeast 30 miles into Green Bay in Oconto County, in T. 27 N., R. 21 E.

**Perry's Creek (L);** rises in Jackson County, in T. 21 N., R. 3 W., flows west 5 miles into Black River (tributary to Mississippi River) in Jackson County, in T. 21 N., R. 4 W.

**Peshtigo Brook (L);** rises in Oconto County, in T. 32 N., R. 18 E., flows southeast 7 miles, southwest 15 miles into Oconto River (which discharges into Green Bay) in Oconto County, in T. 29 N., R. 17 W.

**Peshtigo River;** rises in Forest County, in T. 36 N., R. 12 E., flows southeast 108 miles into Green Bay, 4 miles below Peshtigo in Marinette County, in T. 29 N., R. 23 E.

**Peshtigo River, Little (R);** rises in Oconto County, in T. 30 N., R. 18 E., flows east 19 miles into Peshtigo River (which discharges into Green Bay) in Marinette County, in T. 31 N., R. 21 E. Gaging stations at High Falls (1913-1914); Crivitz (1906-1909).

**Pettingill Creek (L);** rises in Buffalo County, in T. 24 N., R. 10 W., flows northwest 3 miles into Buffalo River (tributary to Mississippi River) in T. 24 N., R. 11 W.

**Pewaukee River (R);** rises in Waukesha County, in T. 8 N., R. 19 E., flows west 1 mile, south 1 mile, then generally southeast 9 miles into Fox River (tributary to Illinois River which discharges into Mississippi River) in Waukesha County, in T. 7 N., R. 19 E.

**Pheasant Branch;** rises in Dane County, in T. 8 N., R. 8 E., flows southeast 7 miles into Lake Mendota (which discharges into Mississippi River through Yahara and Rock Rivers) in Dane County, in T. 7 N., R. 8 E.

**Picatee Creek (L);** rises in Crawford County, in T. 8 N., R. 6 W., flows west 6 miles into Mississippi River in Crawford County, in T. 8 N., R. 7 W.

**Pigeon Creek (L);** rises in Grant County, in T. 4 N., R. 3 W., flows southwest 10 miles into Grant River (tributary to Mississippi River) in Grant County, in T. 4 N., R. 4 W.

- Pigeon Creek (R);** rises in Jackson County, in T. 23 N., R. 5 W., flows southwest 17 miles into Trempealeau River (tributary to Mississippi River) in Trempealeau County, in T. 22 N., R. 8 W.
- Pigeon River (R);** rises in Manitowoc County, in T. 17 N., R. 22 E., flows generally east 9 miles, south 9 miles, slightly northeast 3 miles into Lake Michigan in Sheboygan County, in T. 15 N., R. 23 E., 2 miles north of Sheboygan.
- Pigeon River (R);** rises in Shawano County, in T. 26 N., R. 11 E., flows southeast 24 miles into Embarrass River (tributary to Wolf River which discharges into Green Bay through Fox River) at New London, in Waupaca County, in T. 25 N., R. 15 E.
- Pike River (R);** rises in Marinette County, in T. 36 N., R. 17 E., flows southeast 36 miles into Menominee River (which discharges into Green Bay) in Marinette County, in T. 34 N., R. 21 E. Gaging station near Amberg (1914).
- Pike River, North Fork (L);** rises in Marinette County, in T. 37 N., R. 17 E., flows southeast 15 miles, south 3 miles, east 6 miles, then south about 4 miles into Pike River (tributary to Menominee River which discharges into Green Bay) in Marinette County, in T. 35 N., R. 20 E.
- Pike River;** rises in Racine County, in T. 3 N., R. 22 E., flows south 8 miles, northeast 3 miles, then south 4 miles into Lake Michigan in Kenosha County, in T. 2 N., R. 23 E.
- Pikes Creek;** rises in Bayfield County, in T. 50 N., R. 5 W., flows east 6 miles into South Channel of Lake Superior in T. 50 N., R. 4 W.
- Pine Creek, Lower (R);** rises in Barron County, in T. 32 N., R. 12 W., flows southeast 17 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County at Sand Creek, in T. 31 N., R. 11 W.
- Pine Creek (R);** rises in Buffalo County, in T. 23 N., R. 12 W., flows southeast 5 miles into Buffalo River (tributary to Mississippi River) in T. 22 N., R. 12 W.
- Pine Creek (R);** rises in Calumet County, in T. 17 N., R. 20 E., flows northwest 7 miles into Manitowoc River (which discharges into Lake Michigan) in T. 19 N., R. 20 E.
- Pine Creek (R);** rises in Crawford County, in T. 8 N., R. 5 W., flows east  $2\frac{3}{4}$  miles into Otter Creek (tributary to Kickapoo River which discharges into Wisconsin River) in Crawford County, in T. 8 N., R. 5 W.
- Pine Creek (L);** rises in Iowa County, in T. 7 N., R. 3 E., flows southeast  $5\frac{1}{2}$  miles into Mill Creek (tributary to Wisconsin River) in Iowa County, in T. 6 N., R. 4 E.
- Pine Creek (R);** rises in Jackson County, in T. 24 N., R. 5 W., flows south 15 miles into Black River (tributary to Mississippi River) in Jackson County, in T. 22 N., R. 3 W.
- Pine Creek (L);** rises in Jackson County, in T. 21 N., R. 5 W., flows west 6 miles into Trempealeau River (tributary to Mississippi River) in T. 21 N., R. 6 W.
- Pine Creek (R);** rises in Sauk County, in T. 11 N., R. 5 E., flows north 6 miles into Baraboo River (tributary to Wisconsin River) in Sauk County, in T. 12 N., R. 6 E.
- Pine Creek (L);** rises in Waushara County, in T. 18 N., R. 9 E., flows southwest 11 miles into Mekan River (tributary to Fox River which discharges into Green Bay) in Marquette County, in T. 17 N., R. 10 E.



- Pine Creek, Big (L);** rises in Lincoln County, in T. 35 N., R. 8 E., flows generally west 9 miles into Wisconsin River (tributary to Mississippi River) in T. 35 N., R. 7 E.; drains a number of small lakes.
- Pine Creek, Little (L);** rises in Lincoln County, in T. 34 N., R. 8 E., flows southwest and west 9 miles into Wisconsin River (tributary to Mississippi River) in T. 34 N., R. 6 E.
- Pine River (R);** rises in Butternut Lake in Forest County, in T. 40 N., R. 12 E., flows generally east 55½ miles into Menominee River (which discharges into Green Bay) in Florence County, in T. 39 N., R. 19 E. Drains large number of lakes. Gaging station near Florence (1914).
- Pine River (L);** rises in Langlade County, in T. 33 N., R. 9 E., flows southwest 23 miles into Wisconsin River in Lincoln County, in T. 31 N., R. 7 E.
- Pine River (R);** rises in Vernon County, in T. 13 N., R. 1 W., flows south 22 miles to Richland Center, continuing 12½ miles southeast into Wisconsin River (tributary to Mississippi River) in Richland County, in T. 9 N., R. 2 E.
- Pine River (R);** rises in Waushara County, in T. 20 N., R. 10 E., flows southeast 27 miles into Lake Poygan (which discharges into Green Bay through Fox River) in Waushara County, in T. 19 N., R. 13 E.
- Pine River, West Branch (R);** rises in Richland County, in T. 12 N., R. 1 W., flows southeast 11 miles into Pine River (tributary to Wisconsin River which discharges into Mississippi River) in Richland County, in T. 11 N., R. 1 E.
- Pipe Creek;** rises in Fond du Lac County, in T. 17 N., R. 19 E., flows west 4 miles into Lake Winnebago (which discharges into Green Bay through Fox River) in Fond du Lac County, in T. 17 N., R. 18 E.
- Plainfield Creek (L);** rises in Adams County, in T. 14 N., R. 6 E., flows west 4 miles into Wisconsin River, in T. 14 N., R. 6 E.
- Platte River (L);** rises in Grant County, in T. 6 N., R. 1 W., flows southwest 36 miles into Mississippi River in junction with Grant River in Grant County, in T. 2 N., R. 3 W.
- Platte River, Little (L);** rises in Grant County, in T. 5 N., R. 1 W., flows southwest 30 miles into Platte River (tributary to Mississippi River) in Grant County, in T. 2 N., R. 2 W.
- Plover (Jordon) River, Big (L);** rises in Shawano County, in T. 30 N., R. 11 E., flows southwest 46 miles into Wisconsin River in Portage County, 2 miles below Stevens Point, in T. 23 N., R. 8 E. Gaging station near Stevens Point (1914).
- Plover River (Meadow Creek) (L);** rises in Marathon County, in T. 26 N., R. 8 E., flows southwest 14 miles into Wisconsin River (tributary to Mississippi River) in Portage County, in T. 24 N., R. 7 E.
- Plum Creek (R);** rises in Crawford County, in T. 8 N., R. 6 W., flows east 5 miles into Kickapoo River (tributary to Wisconsin River) in Crawford County, in T. 8 N., R. 5 W.
- Plum Creek (R);** rises in Pierce County, in T. 26 N., R. 15 W., flows southeast 22 miles into Chippewa River (tributary to Mississippi River) in Pepin County, in T. 24 N., R. 14 W.
- Plum Creek (R);** rises in Vernon County, in T. 13 N., R. 1 E., flows east 6 miles into Baraboo River (tributary to Wisconsin River) in Sauk County, in T. 13 N., R. 2 E.

**Pokegama Creek (R);** rises in Rusk County, in T. 35 N., R. 9 W., flows southwest 18 miles into Shetek River through Little Shetek Lake (tributary to Red Cedar River which discharges into Mississippi River through Chippewa River) in Barron County, in T. 34 N., R. 10 W.

**Pokegama River (R);** rises in T. 48 N., R. 16 W., in state of Minnesota, flows east 3 miles into Douglas County, Wisconsin, in T. 48 N., R. 15 W., then generally northeast, north, and northwest 12 miles into St. Louis River and Pokegama Bay (an arm of St. Louis River which enters Lake Superior through Superior Bay) in T. 48 N., R. 14 W.

**Poplar Creek (R);** rises in Dunn County, in T. 30 N., R. 12 W., flows east 4 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County, in T. 30 N., R. 11 W.

**Poplar Creek (L);** rises in Waukesha County, in T. 6 N., R. 20 E., flows northwest 6 miles into Fox River (tributary to Illinois River, which discharges into Mississippi River) in T. 7 N., R. 20 E.

**Poplar River (L);** rises in Clark County, in T. 26 N., R. 1 E., flows northwest 18 miles, then southwest 9 miles into Black River (tributary to Mississippi River) in T. 27 N., R. 2 W.

**Poplar River (Cottonwood) (R);** rises in Douglas County, in T. 46 N., R. 12 W., flows generally north 21 miles into Lake Superior in T. 46 N., R. 12 W.

**Poplar River, North Fork (R);** rises in Taylor County, in T. 30 N., R. 1 E., flows southwest 12 miles into Poplar River (tributary to Black River which discharges into Mississippi River) in junction with South Fork in Clark County, in T. 28 N., R. 1 W.

**Poplar River, South Fork (L);** head of Poplar River; rises in Clark County, in T. 26 N., R. 1 E., flows northwest 19 miles into Poplar River (tributary to Black River which discharges into Mississippi River) in Clark County, in T. 28 N., R. 1 W., in junction with North Fork.

**Popple River (R);** rises in Forest County, in T. 38 N., R. 13 E., flows east 33 miles into Pine River (tributary to Menominee River which discharges into Green Bay) in Florence County, in T. 39 N., R. 17 E.

**Popple River, Little (R);** rises in Florence County, in T. 38 N., R. 17 E., flows in a general northeast direction for 12 miles to Popple River (tributary to Pine River and Menominee River which discharges into Green Bay) in T. 39 N., R. 17 E.

**Potato Creek (R);** rises in Rusk County, in T. 33 N., R. 9 W., flows generally southeast and east 9 miles into Chippewa River (tributary to Mississippi River) in T. 33 N., R. 8 W.; drains several small lakes.

**Potato Creek (L);** rises in Washburn County, in T. 39 N., R. 11 W., flows northwest 9 miles into Namakagon River (tributary to St. Croix River which discharges into Mississippi River) in Washburn County, in T. 40 N., R. 11 W.

**Potato River (R);** rises in Iron County, in T. 45 N., R. 2 E., flows north 4 miles, southwest 6 miles, northwest 7 miles, and west about 11 miles into Bad River (which discharges into Lake Superior) in Ashland County, in T. 46 N., R. 3 W.

**Potato River, Little (R);** rises in Iron County, in T. 46 N., R. 1 E., flows northwest 4 miles, then a little south of west 2 miles into Potato River (tributary to Bad River which discharges into Lake Superior) in T. 46 N., R. 1 W.

- Power Creek (L);** rises in Columbia County, in T. 11 N., R. 10 E., flows north of west 9 miles, then southwest 7 miles into Wisconsin River (tributary to Mississippi River) in Sauk County, in T. 10 N., R. 7 E.
- Prairie River (L);** rises in Langlade County, in T. 34 N., R. 10 E., flows southwest 36 miles into Wisconsin River at Merrill, in Lincoln County, in T. 31 N., R. 6 E. Gaging station near Merrill (1914).
- Prentice Creek (R);** rises in Sauk County, in T. 11 N., R. 8 E., flows south 8 miles through Columbia County into Wisconsin River in Sauk County, in T. 11 N., R. 7 E.
- Raccoon Creek.** Head of Coon River in Monroe County.
- Raspberry River;** rises in Bayfield County, in T. 51 N., R. 5 W., flows northeast 7 miles into Lake Superior through Raspberry Bay, in T. 52 N., R. 4 W.
- Rat (Red) River (R);** rises in Rat Lake, in Forest County, in T. 36 N., R. 14 E., flows northeast 6 miles, then southeast 22 miles into Peshtigo River (which discharges into Green Bay) in Marinette County, in T. 34 N., R. 17 E.
- Rat River;** Outagamie County. See Cisco River.
- Rattlesnake Creek (R);** rises in Grant County, in T. 5 N., R. 5 W., flows southeast 13 miles into Grant River (tributary to Mississippi River) in Grant County, in T. 3 N., R. 4 W.
- Red Cedar River (R);** rises in Lake Chetek in Sawyer County, in T. 38 N., R. 9 W., flows southwest about 20 miles to Rice Lake in Barron County, then generally south and southwest for about 65 miles to Menomonie in Dunn County and continuing southeast about 13 miles to Chippewa River (tributary to Mississippi River) in T. 26 N., R. 12 W.; drains Long, Little Bear, Birch, Pokegama, and many other small lakes; principal tributaries, Chetek and Hay Rivers. Gaging stations near Colfax (1914); Cedar Falls (1909-1914); Menomonie (1907-1908) (1913-1914).
- Red River (R);** rises in Langlade County, in T. 31 N., R. 12 E., flows southeast 36 miles into Wolf River (tributary to Fox River which discharges into Green Bay) in Shawano County, in T. 27 N., R. 15 E.
- Rib River (R);** rises in Taylor County, in T. 33 N., R. 3 E., flows southwest 7 miles to Rib Lake, then southeast 42 miles into Wisconsin River in Marathon County, in T. 28 N., R. 7 E.
- Rib River, Little (L);** rises in Marathon County, in T. 30 N., R. 6 E., flows southeast 12 miles into Rib River (tributary to Wisconsin River) in Marathon County, in T. 29 N., R. 7 E. Gaging station near Wausau (1914).
- Rib River, Little, East Fork.** Head of Little Rib River.
- Rib River, Little, West Fork (R);** rises in Marathon County, in T. 30 N., R. 5 E., flows southeast 7 miles into Little Rib River (tributary to Rib River which discharges into Wisconsin River, a tributary of Mississippi River) in T. 29 N., R. 6 E.
- Rice Creek (R);** rises in Barron County, in T. 34 N., R. 11 W., flows south 3 miles through Prairie Lake to Shetek River (tributary to Red Cedar River which discharges into Mississippi River through Chippewa River) in Barron County, in T. 34 N., R. 11 W.
- Rice River, Big (L);** rises in Oneida County, in T. 37 N., R. 7 E., flows southwest 15 miles into Tomahawk River (tributary to Wisconsin River which discharges into Mississippi River) in Lincoln County, in T. 35 N., R. 6 E.; drains Rice Lake and other small lakes.

**Rice River, Little (R);** rises in Oneida County, in T. 37 N., R. 4 E., flows southeast 16 miles into Tomahawk River (tributary to Wisconsin River) in Lincoln County, in T. 35 N., R. 6 E.

**Richland Creek (R);** rises in Crawford County, in T. 9 N., R. 3 W., flows southeast 8 miles into Wisconsin River in Crawford County, in T. 8 N., R. 3 W.

**Richland Creek (L);** rises in Green County, in T. 2 N., R. 7 E., flows southeast 5 miles, southwest 5 miles into State of Illinois through Green County, in T. 1 N., R. 7 E., continuing southward about 12 miles into Pecatonica River (tributary to Rock River which discharges into Mississippi River).

**Rigsby Branch (L);** rises in Grant County, in T. 3 N., R. 3 W., flows southwest 3 miles into Grant River (tributary to Mississippi River) in T. 2 N., R. 3 W.

**Roaring Creek (R);** rises in Jackson County, in T. 20 N., R. 5 W., flows southeast 6 miles into Black River (tributary to Mississippi River) in Jackson County, in T. 20 N., R. 5 W.

**Robinson Creek (L);** rises in Jackson County, in T. 20 N., R. 1 W., flows west 18 miles into Black River (tributary to Mississippi River) in Jackson County, in T. 20 N., R. 4 W.

**Roberts Creek;** rises in Calumet County, in T. 18 N., R. 18 E., flows west  $\frac{1}{2}$  mile into Lake Winnebago, in T. 18 N., R. 18 E.

**Robson Branch (L);** rises in Lafayette County, in T. 1 N., R. 2 E., flows west 4 miles into Galena River (tributary to Mississippi River) in Lafayette County, in T. 1 N., R. 1 E.

**Roche a Cri Creek (L);** rises in Waushara County, in T. 20 N., R. 8 E., flows west 8 miles, southwest 22 miles into Wisconsin River in Adams County, in T. 18 N., R. 4 E.

**Roche a Cri Creek, Little (L);** rises in Waushara County, in T. 19 N., R. 8 E., flows southwest 24 miles into Wisconsin River in Adams County, in T. 17 N., R. 4 E.

**Rock Creek (L);** rises in Clark County, in T. 23 N., R. 1 E., flows west  $11\frac{1}{2}$  miles into East Fork Black River (tributary to Black River which discharges into Mississippi River) in Jackson County, in T. 22 N., R. 2 W. Also called Moores Creek.

**Rock Creek (L);** rises in Eau Claire County, in T. 25 N., R. 10 W., flows generally northwest 10 miles into Chippewa River (tributary to Mississippi River) in Dunn County, in T. 26 N., R. 11 W.

**Rock Creek (R);** rises in Polk County, in T. 34 N., R. 18 W., flows northeast 1 mile, southwest 2 miles into Deer Lake, east 3 miles through, then southeast 2 miles into Sucker Branch (tributary to Apple River which discharges into Mississippi River through St. Croix River) in Polk County, in T. 34 N., R. 17 W.

**Rock Creek (R);** rises in Rock Lake in Jefferson County, in T. 7 N., R. 13 E., flows northeast 4 miles into Crawfish River (tributary to Rock River which discharges into Mississippi River) in Jefferson County, in T. 7 N., R. 14 E.

**Rock Creek, Big (L);** rises in Polk County in T. 34 N., R. 18 W., flows west 4 miles into St. Croix River (tributary to Mississippi River) in Polk County, in T. 34 N., R. 18 W.

**Rock River (L);** rises in Dodge County, in T. 11 N., R. 17 E., flows east 6 miles, generally north 12 miles, west 12 miles to its junction with West Branch, south 40 miles, northwest 9 miles, southwest 16 miles to Jefferson,

continues southwest 12 miles to Lake Koshkonong, southwest 7 miles through, continues south 18 miles to Janesville, south 16 miles through Rock County, in T. 1 N., R. 12 E., into State of Illinois, flowing south and west into Mississippi River. Stream known as East Branch between its source and its junction with West Branch. Gaging station at Watertown (1914); at Afton (1914).

**Rock River, East Branch;** head of Rock River. See Rock River.

**Rock River, South Branch (R);** rises in Fond du Lac County, in T. 14 N., R. 14 E., flows southeast 16 miles into West Branch of Rock River (tributary to Mississippi River) in Fond du Lac County, in T. 14 N., R. 15 E.

**Rock River, West Branch (R);** rises in Fond du Lac County, in T. 15 N., R. 14 E., flows east 7 miles, south 22 miles into Rock River (tributary to Mississippi River) in Dodge County, in T. 12 N., R. 16 E.

**Rocky Run (L);** rises in Columbia County in Mud Lake, in T. 11 N., R. 10 E., flows generally north about 5 miles, west 9 miles into Wisconsin River in Columbia County, in T. 11 N., R. 9 E.

**Rocky Run (R);** rises in Douglas County, in T. 43 N., R. 14 W., flows south 5 miles into St. Croix River (tributary to Mississippi River) in Douglas County, in T. 43 N., R. 14 W.

**Roger Branch (L);** rises in Grant County, in T. 6 N., R. 3 W., flows southwest 14 miles into Grant River (tributary to Mississippi River) in Grant County, in T. 4 N., R. 4 W.

**Roland Creek (R);** rises in St. Croix County, in T. 31 N., R. 15 W., flows southeast about 5 miles into South Fork of Hay River (tributary to Red Cedar River which discharges into Mississippi River through Chippewa River) in Dunn County, in T. 31 N., R. 14 W.

**Root River;** rises in Waukesha County, in T. 6 N., R. 20 E., flows southwest 2 miles, southeast 4 miles to Muskego Lake, draining Little Muskego Lake, northeast and east 8 miles through Milwaukee County, south 6 miles, then generally east and southeast 21 miles into Lake Michigan in Racine County, in T. 3 N., R. 23 E.

**Rossman Creek (L);** rises in Trempealeau County, in T. 24 N., R. 9 W., flows northwest 5 miles into Buffalo River (tributary to Mississippi River) in Buffalo County, in T. 24 N., R. 10 W.

**Rowan Creek (L);** rises in Columbia County, in T. 11 N., R. 10 E., flows generally west 16 miles into Wisconsin River in Columbia County, in T. 10 N., R. 7 E.

**Rowley Creek (R);** rises in Columbia County, in T. 12 N., R. 8 E., flows west 6 miles into Baraboo River (tributary to Wisconsin River) in Sauk County, in T. 12 N., R. 7 E.

**Rubicon River (L);** rises in Washington County, in T. 10 N., R. 18 E., flows generally west 9 miles, draining Pike Lake, south 3 miles, then northwest 6 miles and south 3 miles into Rock River (tributary to Mississippi River) in Dodge County, in T. 10 N., R. 16 E.

**Rush Creek (L);** rises in Vernon County, in T. 11 N., R. 5 W., flows southwest 13 miles into Mississippi River in Crawford County, in T. 10 N., R. 7 W.

**Rush River (L);** rises in St. Croix County, in T. 29 N., R. 16 W., flows generally south 39 miles into Lake Pepin (an expansion of Mississippi River) in Pierce County, in T. 24 N., R. 16 W.

**Rust Creek (L);** rises in Green County, in T. 2 N., R. 7 E., flows west 5 miles into Skinner Creek (tributary to Pecatonica River which discharges into Mississippi River through Rock River) in Green County, in T. 2 N., R. 6 E.

- St. Croix River (L);** rises in Upper St. Croix Lake, in Douglas County, in T. 45 N., R. 12 W., flows southwest 84 miles, south 76 miles along western boundary of Burnett, Polk, St. Croix, and Pierce Counties, into Mississippi River in T. 26 N., R. 20 W. Gaging stations, near Swiss (1914); near St. Croix Falls (1902-1914).
- St. Louis River (L);** rises in state of Minnesota, flows south and southeast, bounding northwest corner of Douglas County, Wisconsin, and dividing Minnesota and Wisconsin; flows east 5 miles, then northeast 10 miles into St. Louis Bay (which enters Lake Superior at Superior through Superior Bay) in T. 49 N., R. 14 W.; drains Spirit Lake.
- Sand Branch (R);** rises in Grant County, in T. 8 N., R. 1 E., flows northwest about 5 miles into Blue River (tributary to Wisconsin River which discharges into Mississippi River) in T. 8 N., R. 1 W.
- Sand Creek (L);** rises in Sand Lake, in Barron County, in T. 36 N., R. 14 W., flows north 9 miles into Clam River (tributary to St. Croix River which discharges into Mississippi River) in Burnett County, in T. 37 N., R. 14 W.
- Sand Creek (L);** rises in Chippewa County, in T. 31 N., R. 10 W., flows southwest 7 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County, in T. 31 N., R. 11 W.
- Sand Creek (L);** rises in Crawford County, in T. 10 N., R. 3 W., flows southwest 5 miles into Kickapoo River (tributary to Wisconsin River which discharges into Mississippi River) in T. 9 N., R. 4 W.
- Sand Creek (L);** rises in La Crosse County, in T. 18 N., R. 5 W., flows northwest 5 miles into Black River (tributary to Mississippi River) in Jackson County, in T. 19 N., R. 6 W.
- Sanders Creek (L);** rises in Grant County, in T. 7 N., R. 2 W., flows northwest  $6\frac{1}{2}$  miles into Wisconsin River in Grant County, in T. 8 N., R. 3 W.
- Sand River (R);** rises in Bayfield County, in T. 50 N., R. 5 W., flows north and northeast 11 miles into Lake Superior through Sand Bay in T. 2 N., R. 5 W.
- Sandy Creek (L);** rises in Grant County, in T. 6 N., R. 6 W., flows southwest 9 miles into Mississippi River in Grant County, in T. 5 N., R. 6 W.
- Sandy Creek (L);** rises in St. Croix County, in T. 30 N., R. 15 W., flows southeast about 7 miles into Tiffany Creek (tributary to South Fork of Hay River, a branch of Red Cedar River which discharges into Mississippi River through Chippewa River) in Dunn County, in T. 30 N., R. 14 W.
- Sandy Creek (R);** rises in Marathon County, in T. 30 N., R. 9 E., flows southwest 14 miles into Eau Claire River (tributary to Wisconsin River) in T. 28 N., R. 8 E.
- Sandy Creek, Little (R);** rises in Marathon County, in T. 27 N., R. 8 E., flows southwest 12 miles into Little Eau Claire River (tributary to Wisconsin River which discharges into Mississippi River) in Portage County, in T. 25 N., R. 7 E.
- Sauk Creek;** rises in Washington County, in T. 12 N., R. 21 E., flows south 13 miles into Lake Michigan at Port Washington in Ozaukee County, in T. 11 N., R. 22 E.
- Sawyer Creek (L);** rises in Casey Lakes in Washburn County, in T. 40 N., R. 13 W., flows northwest 9 miles into Namakagon River (tributary to St. Croix River which discharges into Mississippi River) in Washburn County, in T. 41 N., R. 13 W.
- Scarboro Creek (R);** rises in Brown County, in T. 23 N., R. 22 E., flows northeast 12 miles into Kewaunee River (which discharges into Lake Michigan) in Kewaunee County, in T. 24 N., R. 23 E.



- Schoepps Creek (L);** rises in Buffalo County, in T. 21 N., R. 11 W., flows southwest 4 miles into Eagle Creek or Big Waumandee River (tributary to Mississippi River) in Buffalo County, in T. 20 N., R. 11 W.
- Scott Creek (R);** rises in Marathon County, in T. 29 N., R. 4 E., flows southeast 5 miles, northeast 3 miles, then generally east 4 miles into Rib River (tributary to Wisconsin River which discharges into Mississippi River) in T. 28 N., R. 5 E.
- Scrabble Branch (R);** rises in Grant County, in T. 1 N., R. 1 W., flows southeast 5 miles into Galena River (tributary to Mississippi River) in Lafayette County, in T. 1 N., R. 1 E.
- Scuppernong Creek (L);** rises in Waushara County, in T. 7 N., R. 18 E., flows southwest 2 miles, northwest 2 miles, southwest and south 3 miles, then northwest 3 miles into Bark River (tributary to Rock River which discharges into Mississippi River) in Dodge County, in T. 6 N., R. 17 E.; drains Dutchman and other small lakes.
- Scuppernong River (L);** rises in Waukesha County in Silver Lake, in T. 6 N., R. 17 E., flows southeast 4 miles, then east 11 miles into Bark River (tributary to Rock River which discharges into Mississippi River) in Jefferson County, in T. 5 N., R. 15 E.; drains Spring Lake.
- Seeley Creek (R);** rises in Sauk County, in T. 11 N., R. 5 E., flows northeast 10 miles, northwest 2 miles, north 1 mile, northeast 7 miles into Baraboo River (tributary to Wisconsin River) in Sauk County, in T. 11 N., R. 5 E.
- Sevenmile Creek (R);** rises in Juneau County, in T. 14 N., R. 4 E., flows north 9 miles into Lemonweir River (tributary to Wisconsin River) in Juneau County, in T. 15 N., R. 4 E.
- Seven Mile Creek (L);** rises in Portage County, in T. 21 N., R. 6 E., flows west 9 miles into Wisconsin River in Wood County, in T. 21 N., R. 5 E.
- Sheboygan River;** rises in Fond du Lac County, in T. 15 N., R. 19 E., flows northeast 30 miles, southeast 29 miles into Lake Michigan at Sheboygan in Sheboygan County, in T. 15 N., R. 23 E.
- Shelldrake Creek (R);** rises in Douglas County, in T. 43 N., R. 10 W., flows southwest 3 miles into Totogatic River (tributary to Namakagon River which discharges through St. Croix River into Mississippi River) in Douglas County, in T. 43 N., R. 10 W.
- Shetek (Moose Ear) River (L);** rises in Rusk County, in T. 35 N., R. 9 W., flows southwest 16 miles into Little Shetek Lake, 2 miles through, southwest 4½ miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Barron County, in T. 32 N., R. 11 W.
- Shiocton River (L);** rises in Shawano County, in T. 26 N., R. 17 E., flows generally south 24 miles into Wolf River (tributary to Fox River which discharges into Green Bay) in Outagamie County, in T. 23 N., R. 16 E.
- Shullsburg Branch (L);** rises in Lafayette County, in T. 1 N., R. 3 E., flows west 10 miles into Galena River (tributary to Mississippi River) in Lafayette County, in T. 1 N., R. 1 E.
- Silver Creek (R);** rises in Eau Claire County, in T. 25 N., R. 10 W., flows south 3 miles into Buffalo River (tributary to Mississippi River) in Buffalo County, in T. 24 N., R. 10 W.
- Silver Creek (R);** rises in Ashland County, in T. 44 N., R. 3 W., flows north 7 miles into Marango River (tributary to Bad River which discharges into Lake Superior) in T. 46 N., R. 3 W.

- Silver Creek (R);** rises in Fond du Lac County, in T. 14 N., R. 14 E., flows north 6 miles, west 9 miles into Green Lake (which discharges through Fox River into Green Bay) in Green Lake County, in T. 16 N., R. 13 E.
- Silver Creek (R);** rises in Marathon County, in T. 30 N., R. 6 E., flows southeast 6 miles into Wisconsin River (tributary to Mississippi River) in T. 30 N., R. 7 E.
- Silver Creek (L);** rises in Monroe County, in T. 16 N., R. 2 W., flows northwest 9 miles into La Crosse River (tributary to Mississippi River) 2 miles north of Sparta in Monroe County, in T. 17 N., R. 3 W.
- Silver Creek (L);** rises in Price County, in T. 34 N., R. 2 E., follows an irregular course southward for about 6 miles, then flows west 12 miles through Taylor County into South Fork of Jump River (tributary to Chippewa River which discharges into Mississippi River) in Price County, in T. 34 N., R. 1 W.
- Silver Creek (R);** rises in Silver Lake in Washington County, in T. 11 N., R. 19 E., flows north 2 miles, generally east 2 miles into Milwaukee River (which discharges into Lake Michigan) in Washington County, in T. 11 N., R. 19 E.; at West Bend.
- Sinks Creek (L);** rises in Monroe County, in T. 15 N., R. 1 W., flows west 5½ miles into Kickapoo River (tributary to Wisconsin River) in Monroe County, in T. 15 N., R. 1 W.
- Sinnipee Creek (L);** rises in Grant County, in T. 2 N., R. 2 W., flows southwest 4 miles into Mississippi River in Grant County, in T. 1 N., R. 2 W.
- Sinsinawa River (L);** rises in Grant County, in T. 2 N., R. 1 W., flows south 7 miles into State of Illinois through Grant County, in T. 1 N., R. 1 W.; continuing southward into Mississippi River.
- Sioux River (L);** rises in Bayfield County, in T. 48 N., R. 5 W., flows northeast 10½ miles into Lake Superior through South Channel in T. 49 N., R. 4 W.
- Siskowit River (R);** rises in Siskowit Lake in Bayfield County, in T. 50 N., R. 6 W., flows northeast and north 6 miles into Lake Superior through Siskowit Bay in T. 51 N., R. 6 W.
- Six Mile Branch (R);** rises in Iowa County, in T. 7 N., R. 1 E., flows northwest 7 miles into Blue River (tributary to Mississippi River) in Grant County, in T. 7 N., R. 1 W.
- Sixmile Creek;** rises in Dane County, in T. 8 N., R. 8 E., flows south 8 miles into Lake Mendota (which discharges into Mississippi River through Yahara and Rock Rivers) in Dane County, in T. 8 N., R. 9 E.
- Skillet Creek (R);** rises in Sauk County, in T. 11 N., R. 6 E., flows northwest 3 miles into Pine Creek (tributary to Baraboo River which discharges into Wisconsin River) in Sauk County, in T. 11 N., R. 6 E.
- Skiner Creek (L);** rises in Green County, in T. 2 N., R. 7 E., flows southwest 14 miles into Pecatonica River (tributary to Rock River which discharges into Mississippi River) in Green County, in T. 1 N., R. 6 E.
- Skinner Creek (L);** rises in Price County, in T. 36 N., R. 1 W., flows west 15 miles into South Fork Flambeau River (tributary to Flambeau River which discharges into Mississippi River through Chippewa River) in Rusk County, in T. 36 N., R. 3 W.
- Sneed Creek (L);** rises in Iowa County, in T. 7 N., R. 3 E., flows northwest 9 miles into Wisconsin River in Iowa County, in T. 8 N., R. 3 E.
- Snowden Branch (L);** rises in Grant County, in T. 2 N., R. 1 W., flows northwest 8 miles into Blockhouse Creek (tributary to Little Platte River which discharges into Mississippi River through Platte River) in Grant County, in T. 2 N., R. 2 W.



- Soft Maple Creek (R);** rises in Rusk County, in T. 34 N., R. 9 W., flows southeast 6 miles, northeast 2 miles, then southeast 6 miles into Chippewa River (tributary to Mississippi River) in T. 33 N., R. 8 W.
- Soldiers Creek (L);** rises in Crawford County, in T. 11 N., R. 3 W., flows west 3 miles into Kickapoo River (tributary to Wisconsin River) in Crawford County, in T. 11 N., R. 3 W.
- Somo River (R);** rises in Price County, in T. 37 N., R. 3 E., flows southeast 17 miles into Wisconsin River in Lincoln County, in T. 35 N., R. 5 E.; drains Somo Lake.
- Soules Creek (L);** rises in Richland County, in T. 12 N., R. 1 E., flows southwest 4 miles into Pine River (tributary to Wisconsin River) in Richland County, in T. 12 N., R. 1 E.
- Spirit River (R);** rises in Price County, in T. 34 N., R. 2 E., flows southeast 14 miles, east 13 miles into Wisconsin River in Lincoln County, in T. 34 N., R. 6 E.
- Spring Brook (L);** rises in Columbia County, in T. 13 N., R. 10 E., flows south of west 3 miles, then northwest 3 miles into French Creek (tributary to Fox River which discharges into Green Bay) in Columbia County, in T. 13 N., R. 9 E.
- Spring Brook (R);** rises in Jefferson County, in T. 7 N., R. 15 E., flows south 1½ miles into Johnson Creek (tributary to Rock River which discharges into Mississippi River) in T. 7 N., R. 14 E.
- Spring Creek (L);** rises in Buffalo County, in T. 24 N., R. 13 W., flows west about 3 miles into Beef Slough (an arm of Chippewa River which discharges into Mississippi River) in T. 24 N., R. 14 W.
- Spring Creek (L);** rises in Calumet County, in T. 20 N., R. 20 E., flows generally southwest 9 miles into Manitowoc River (which discharges into Lake Michigan) in T. 19 N., R. 20 E.
- Spring Creek (L);** rises in Dane County, in T. 9 N., R. 8 E., flows north 11 miles into Rowan Creek (tributary to Wisconsin River) in Columbia County, in T. 10 N., R. 8 E.
- Spring Creek (R);** rises in Dane County, in T. 8 N., R. 12 E., flows north into Waterloo Creek (tributary to Crawfish River which discharges into Mississippi River through Rock River) in Dane County, in T. 8 N., R. 12 E.
- Spring Creek (R);** rises in Dane County, in T. 4 N., R. 11 E., flows northeast 2 miles into Waukoma Creek (tributary to Yahara River which discharges into Rock River, a branch of Mississippi River) in T. 4 N., R. 11 E.
- Spring Creek (R);** rises in Green County, in T. 1 N., R. 8 E., flows east 5 miles into Sugar River (tributary to Rock River which discharges into Mississippi River) in Green County, in T. 1 N., R. 9 E.
- Spring Creek (R);** rises in Monroe County, in T. 16 N., R. 2 W., flows south 12 miles into Kickapoo River (tributary to Wisconsin River) in Monroe County, in T. 15 N., R. 2 W.
- Spring Creek (L);** rises in Richland County, in T. 10 N., R. 1 E., flows south 3 miles into Pine River (tributary to Wisconsin River) in Richland County in T. 10 N., R. 1 E.
- Spring Creek (R);** rises in Walworth County, in T. 4 N., R. 18 E., flows northeast 4 miles into Honey Creek (tributary to Sugar Creek which discharges into Mississippi River through Fox and Illinois Rivers) in Walworth County, in T. 4 N., R. 18 E.

**Spring Creek (R)**; rises in Washburn County, in T. 41 N., R. 11 W., flows south 7 miles into Namakagon River (tributary to St. Croix River which discharges into Mississippi River) in Washburn County, in T. 40 N., R. 11 W.

**Spring River (L)**; rises in Langlade County, in T. 32 N., R. 11 E., flows southwest 14 miles into Eau Claire River (tributary to Wisconsin River) in Marathon County, in T. 30 N., R. 10 E.

**Spruce Creek (R)**; rises in Douglas County, in T. 45 N., R. 14 W., flows southwest 15 miles into Tamarack Creek (tributary to St. Croix River which discharges into Mississippi River) in Douglas County, in T. 43 N., R. 15 W.

**Squaw Creek (R)**; rises in Johnson County, in T. 21 N., R. 5 W., flows southeast 7 miles into Black River (tributary to Mississippi River) in Jackson County, in T. 21 N., R. 4 W.

**Starkweather Creek**; rises in Dane County, in T. 8 N., R. 10 E., flows southwest  $3\frac{1}{2}$  miles into Lake Monona (which discharges into Mississippi River through Yahara River and Rock River) in Dane County, in T. 7 N., R. 10 E.

**Stevens Creek (L)**; rises in Rock County, in T. 3 N., R. 11 E., flows south 7 miles into Bass Creek (tributary to Rock River which discharges into Mississippi River) in Rock County, in T. 2 N., R. 11 E.

**Stoney Creek.** See East Branch Milwaukee River.

**Stony Brook (R)**; rises in Jefferson County, in T. 7 N., R. 13 E., flows north 12 miles into Waterloo Creek (tributary to Crawfish River which discharges into Mississippi River through Rock River) in Dodge County, in T. 9 N., R. 13 E.

**Straight River (R)**; rises in Polk County, in T. 36 N., R. 17 W., flows south and east  $1\frac{1}{2}$  miles through Straight Lake, southeast 7 miles into Round Lake, continues south through Round Lake 3 miles into Bakers Lake, 3 miles southwest, then northwest through Bakers Lake, then 7 miles south into Apple River (tributary to St. Croix River which discharges into Mississippi River), in T. 34 N., R. 16 W.

**Stuntz Creek (R)**; rises in Washburn County, in T. 41 N., R. 11 W., flows west 10 miles into Namakagon River (tributary to St. Croix River which discharges into Mississippi River) in Washburn County, in T. 41 N., R. 13 W.

**Sturgeon Creek**; rises in Iron County, in T. 47 N., R. 1 W., flows northeast 4 miles into Lake Superior through Oronto Bay, in T. 47 N., R. 1 W.

**Suamico River**; rises in Outagamie County, in T. 24 N., R. 18 E., flows northeast 21 miles into Green Bay in Brown County, in T. 25 N., R. 20 E.

**Suamico River, Little**; rises in Shawano County, in T. 25 N., R. 18 E., flows northeast 20 miles into Green Bay in Oconto County, in T. 26 N., R. 21 E.

**Sucker (Balsam) Branch (R)**; rises in Balsam Lake in Polk County, in T. 35 N., R. 17 W., flows south 6 miles through Half Moon Lake to Balsam Lake, then south 9 miles to Sucker Lake, continues 6 miles into Apple River (tributary to St. Croix River which discharges into Mississippi River) in Polk County, in T. 32 N., R. 17 W.

**Sucker Creek**; rises in Ozaukee County, in T. 12 N., R. 22 E., flows south 9 miles into Lake Michigan in Ozaukee County, in T. 11 N., R. 22 E.

**Sugar Creek (L)**; rises in Crawford County, in T. 11 N., R. 5 W., flows southwest 7 miles into Mississippi River in Crawford County, in T. 10 N., R. 6 W.

**Sugar Creek (R)**; rises in Walworth County, in T. 3 N., R. 16 E., flows east 18 miles into Fox River (tributary to Illinois River which discharges into Mississippi River) in Racine County, in T. 3 N., R. 18 E.

- Sugar River (L);** rises in Dane County, in T. 7 N., R. 7 E., flows southeast 56 miles into State of Illinois, continuing in that direction about 12 miles into Pecatonica River (tributary to Rock River which discharges into Mississippi River) in Rock County, in T. 1 N., R. 10 E. Gaging station near Brodhead (1914).
- Sugar River, Little (R);** rises in Green County, in T. 5 N., R. 7 E., flows southeast 14 miles into Sugar River (tributary to Pecatonica River which discharges into Mississippi River through Rock River) in Green County, in T. 3 N., R. 9 E.
- Sylvesters Creek (R);** rises in Iowa County, in T. 6 N., R. 1 E., flows southeast 7 miles into Pecatonica River (tributary to Rock River which discharges into Mississippi River) in Iowa County, in T. 5 N., R. 1 E.
- Tainter Creek (R);** rises in Vernon County, in T. 12 N., R. 4 W., flows southeast 9 miles into Kickapoo River (tributary to Wisconsin River which discharges into Mississippi River) in Crawford County, in T. 10 N., R. 4 W.
- Tamarack Creek (R);** rises in Douglas County, in T. 45 N., R. 14 W., flows southwest 18 miles into Carlton County, Minnesota, through Burnett County in T. 42 N., R. 15 W.; discharging into St. Croix River (tributary to Mississippi River).
- Tamarack Creek (L);** rises in Trempealeau County, in T. 20 N., R. 9 W., flows south 9 miles, west 4 miles into Trempealeau River (tributary to Mississippi River) in Trempealeau County, in T. 19 N., R. 10 W.
- Taycheedah Creek;** rises in Fond du Lac County, in T. 15 N., R. 18 E., flows northeast 2 miles, then generally north and northwest 7 miles into Lake Winnebago (which discharges into Green Bay through Fox River) in Fond du Lac County, in T. 16 N., R. 17 E.
- Taylor Creek (L);** rises in Eau Claire County, in T. 26 N., R. 9 W., flows northwest 4 miles into Chippewa River (tributary to Mississippi River) in T. 27 N., R. 10 W.
- Taylor Creek (L);** rises in Rock County, in T. 3 N., R. 10 E., flows south 11 miles into Sugar River (tributary to Rock River which discharges into Mississippi River) in Rock County, in T. 1 N., R. 10 E.
- Ten Mile Creek (L);** rises in Rusk County, in T. 34 N., R. 9 W., flows southwest 14 miles into Little Shetek River (a branch of Chippewa River which discharges into Mississippi River) in Barron County, in T. 33 N., R. 10 W.
- Tenmile Creek (L);** rises in Waushara County, in T. 21 N., R. 8 E., flows northwest 4 miles, west 20 miles into Wisconsin River in Wood County in T. 21 N., R. 5 E.
- Thornapple River (L);** rises in Sawyer County, in T. 40 N., R. 3 W., flows southwest 38 miles into Chippewa River (tributary to Mississippi River) in Rusk County, in T. 34 N., R. 7 W.
- Thunder Branch (R);** rises in Lafayette County, in T. 2 N., R. 3 E., flows east 2 miles into Pecatonica River (tributary to Rock River which discharges into Mississippi River) in T. 2 N., R. 3 E.
- Thunder River (R);** rises in Marinette County, in T. 34 N., R. 17 E., flows southeast 15 miles into Peshtigo River (which discharges into Green Bay) in T. 32 N., R. 18 E.; drains Thunder Lake.
- Tiffany Creek (R);** rises in St. Croix County, in T. 30 N., R. 15 W., flows south and east 6 miles to its junction with South Fork of Hay River (tributary to Red Cedar River which discharges into Mississippi River through Chippewa River) in Dunn County, in T. 30 N., R. 13 W.

**Toad Creek (L);** rises in Outagamie County, in T. 24 N., R. 18 E., flows southwest about 6 miles into Shiocton River (tributary to Wolf River which discharges into Green Bay through Fox River) in T. 24 N., R. 17 E.

**Token Creek (L);** rises in Dane County, in T. 9 N., R. 10 E., flows southwest 8 miles into Yahara River (tributary to Rock River which discharges into Mississippi River) in Dane County, in T. 8 N., R. 10 E.

**Tomahawk River (R);** rises in Vilas County, in T. 41 N., R. 6 E., flows southwest 20 miles, southeast 10 miles, south 11 miles into Wisconsin River in Lincoln County, in T. 35 N., R. 6 E., at Tomahawk; drains Lakes Harris, Blue Lake, Kawaguesaga, Deer, and many other small lakes. Gaging station near Bradley (1914).

**Torch River;** rises in Ashland County, in T. 42 N., R. 3 W., flows southwest 12 miles into Chippewa River in Sawyer County, in T. 42 N., R. 5 W.

**Totogatic River (R);** rises in Bayfield County, in T. 43 N., R. 8 W., flows south 12 miles through Totogatic Lake, northwest 12 miles to its junction with its tributary, Totogatic-once Creek, then west and southwest 27 miles to its junction with Namakagon River (tributary to St. Croix River which discharges into Mississippi River) in Burnett County, in T. 42 N., R. 14 W.

**Totogatic-once Creek (R);** rises in Bayfield County, in T. 44 N., R. 9 W., flows southwest 16 miles to its junction with Totogatic River (tributary through Namakagon River to St. Croix River which discharges into Mississippi River) in Douglas County, in T. 43 N., R. 11 W.

**Trade River (L);** rises in Polk County, in T. 36 N., R. 17 W., flows west 9 miles, north through Spirit Lake to Trade Lake and southwest 15 miles into St. Croix River (tributary to Mississippi River) in Polk County, in T. 36 N., R. 19 W.

**Trapp River (L);** rises in Langlade County, in T. 31 N., R. 9 E., flows southwest 18 miles into Wisconsin River in Marathon County, in T. 30 N., R. 7 E.

**Trasher's Creek (R);** rises in La Crosse County, in T. 17 N., R. 7 W., flows southeast  $3\frac{3}{4}$  miles into La Crosse River (tributary to Mississippi River) in La Crosse County, in T. 16 N., R. 6 W.

**Travers Creek (R);** rises in Buffalo County, in T. 22 N., R. 10 W., flows southeast 8 miles into Trempealeau River (tributary to Mississippi River) in Trempealeau County, in T. 22 N., R. 9 W.

**Trempealeau River (L);** rises in Jackson County, in T. 22 N., R. 4 W., flows southwest 23 miles, northwest 8 miles to Whitehall, continues southwest 38 miles into Mississippi River in Trempealeau County, in T. 18 N., R. 10 W. Gaging station at Dodge (1913-1914).

**Trim Creek, Little (L);** rises in Pierce County, in T. 26 N., R. 18 W., flows southwest 6 miles into Trimble River (tributary to Mississippi River) in Pierce County, in T. 25 N., R. 18 W.

**Trimble River (L);** rises in St. Croix County, in T. 28 N., R. 18 W., flows generally south 21 miles, then northwest about 2 miles into Mississippi River in Pierce County, in T. 25 N., R. 19 W.

**Trout Brook (R);** rises in Ashland County, in English Lake, in T. 44 N., R. 3 W., flows west of north 7 miles into Marengo (Maringouin) River (tributary to Bad River which discharges into Lake Superior) in T. 46 N., R. 3 W.

**Trout Brook (R);** rises in Lafayette County, in T. 1 N., R. 4 E., flows north  $4\frac{3}{4}$  miles into Wolf Creek (tributary to Pecatonica River which discharges through Rock River into Mississippi River) in Lafayette County, in T. 1 N., R. 4 E.

**Trout Brook (L);** rises in Richland County, in T. 10 N.; R. 2 E., flows northwest  $3\frac{1}{2}$  miles into Willow Creek (tributary to Mississippi River) in Richland County, in T. 10 N., R. 2 E.

**Trout Creek (R);** rises in Buffalo County, in T. 23 N., R. 13 W., flows southeast 6 miles into Buffalo River (tributary to Mississippi River) in T. 22 N., R. 12 W.

**Trout Creek (L);** rises in Chippewa County, in T. 31 N., R. 10 W., flows south and west 10 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County, in T. 30 N., R. 11 W.

**Trout Creek (L);** rises in Crawford County, in T. 11 N., R. 3 W., flows west 5 miles into Kickapoo River (tributary to Wisconsin River) in Crawford County, in T. 11 N., R. 3 W.

**Trout Creek (R);** rises in Jackson County, in T. 21 N., R. 5 W., flows southeast 8 miles into Black River (tributary to Mississippi River) in Jackson County, in T. 20 N., R. 4 W.

**Turtle Creek (R);** rises in Barron County, in T. 34 N., R. 14 W., Upper Turtle Lake, flows through Lower Turtle Lake, southeast  $13\frac{1}{2}$  miles into Hay River (tributary to Red Cedar River which discharges into Mississippi River through Chippewa River) in Barron County, in T. 32 N., R. 13 W.

**Turtle Creek (L);** rises in Iron County, in T. 44 N., R. 4 E., flows southwest 21 miles, draining many small lakes, into Flambeau River (tributary to Chippewa River which discharges into Mississippi River) in Iron County, in T. 42 N., R. 2 E.

**Turtle Creek (L);** rises in Walworth County in Turtle Lake, in T. 3 N., R. 15 E., flows southwest 6 miles, south 2 miles, then generally west and southwest 28 miles into State of Illinois through Rock County, in T. 1 N., R. 12 E.; drains Turtle Lake.

**Twin Grove Creek (L);** rises in Green County, in T. 1 N., R. 8 E., flows northwest  $5\frac{1}{2}$  miles into Richland Creek (tributary to Pecatonica River which discharges into Mississippi River through Rock River) in Green County, in T. 1 N., R. 8 E.

**Twin River, East;** rises in Kewaunee County, in T. 23 N., R. 23 E., flows generally south 30 miles into Lake Michigan in Manitowoc County, in T. 19 N., R. 24 E. Same as Mishicot Creek.

**Twin River, West;** rises in Brown County, in T. 23 N., R. 22 E., flows generally southeast 30 miles into Lake Michigan,  $\frac{1}{2}$  mile east of Twin River in Manitowoc County, in T. 19 N., R. 24 E. Same as Neshota Creek.

**Tylers Fork (R);** rises in Iron County, in T. 44 N., R. 1 E., flows northwest 4 miles, southwest and west 6 miles, a little west of north 10 miles, and southwest 7 miles into Bad River (which discharges into Lake Superior) in Ashland County, in T. 45 N., R. 2 W.

**Underwood Creek (L);** rises in Iowa County, in T. 7 N., R. 1 E., flows north 6 miles into Marsh Creek (tributary to Wisconsin River which discharges into Mississippi River) in Iowa County, in T. 8 N., R. 1 E.

**Underwood Creek (R);** rises in Milwaukee County, in T. 6 N., R. 21 E., flows generally north 5 miles into Menomonee River (tributary to Milwaukee River which discharges into Lake Michigan) in Milwaukee County, in T. 7 N., R. 21 E.

- Upper Pine Creek (R);** rises in Barron County, in T. 33 N., R. 12 W., flows south about 4 miles, southeast about 5 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County, in T. 31 N., R. 11 W.
- Vandyne Creek (L);** rises in Fond du Lac County, in T. 16 N., R. 16 E., flows northeast 5 miles into Lake Winnebago (which discharges into Green Bay through Fox River) in Winnebago County, in T. 17 N., R. 17 E.
- Vermillion River (R);** rises in Vermillion Lake in Barron County, in T. 35 N., R. 13 W., flows south 5 miles to Poskin Lake,  $\frac{3}{4}$  mile through, east 5 miles into Yellow River (tributary to Red Cedar River which discharges into Mississippi River through Chippewa River) in Barron County, in T. 34 N., R. 12 W.
- Warner's Creek (L);** rises in Vernon County, in T. 13 N., R. 1 W., flows west 8 miles into Kickapoo River (tributary to Wisconsin River) in Vernon County, in T. 14 N., R. 2 W.
- Waterloo Creek (R);** rises in Dane County, in T. 9 N., R. 11 E., flows southeast 18 miles into Crawfish River (tributary to Rock River which discharges into Mississippi River) in Dodge County, in T. 9 N., R. 13 E.
- Waubee River (L);** rises in Oconto County, in T. 32 N., R. 17 E., flows southwest 12 miles into Oconto River (which discharges into Green Bay) in T. 31 N., R. 16 E.
- Waukoma Creek (R);** rises in Dane County, in T. 5 N., R. 10 E., flows southeast 15 miles into Yahara River (tributary to Rock River which discharges into Mississippi River) in Rock County, in T. 4 N., R. 11 E. Same as Badfish Creek.
- Waumandee River, Big (L);** rises in Buffalo County, in T. 22 N., R. 10 W., flows southwest 24 miles into Mississippi River in Buffalo County, in T. 19 N., R. 11 W.
- Waumandee River, Little (R);** rises in Buffalo County, in T. 22 N., R. 11 W., flows southwest 14 miles into Big Waumandee River (tributary to Mississippi River) in Buffalo County, in T. 21 N., R. 11 W.
- Waupaca River (R);** rises in Portage County, in T. 25 N., R. 9 E., flows southeast 33 miles to Waupaca, continues southeast 13 miles into Wolf River (tributary to Fox River which discharges into Green Bay) in Waupaca County, in T. 21 N., R. 13 E.
- Waupaca River, South Fork (R);** rises in Portage County, in T. 21 N., R. 10 E., flows northeast 12 miles into Waupaca River (tributary to Wolf River which discharges into Green Bay through Fox River) in Waupaca County, in T. 22 N., R. 12 E.
- Wausaukee River (R);** rises in Marinette County, in T. 35 N., R. 18 E., flows southeast 22 miles into Menominee River (which discharges into Green Bay) in Marinette County, in T. 33 N., R. 21 E.
- Wedges Creek (R);** rises in Clark County, in T. 26 N., R. 3 W., flows south 19 miles into Black River (tributary to Mississippi River) in Clark County, in T. 23 N., R. 2 W.
- Weirgor Creek, Little (R);** rises in Rusk County, in T. 35 N., R. 8 W., flows north about 1 mile, northeast 8 miles, southeast 6 miles into Chippewa River (tributary to Mississippi River) in T. 36 N., R. 7 W.
- Weister Creek (R);** rises in Vernon County, in T. 14 N., R. 3 W., flows southeast 9 miles into Kickapoo River (tributary to Wisconsin River) in Vernon County, in T. 13 N., R. 2 W.



- Wengers Creek** (L); rises in Buffalo County, in T. 22 N., R. 12 W., flows north of west 2 miles into Buffalo River (tributary to Mississippi River), in T. 22 N., R. 12 W.
- West Creek** (L); rises in Eau Claire County, in T. 25 N., R. 10 W., flows northwest 12 miles into Chippewa River (tributary to Mississippi River) in Eau Claire County, in T. 26 N., R. 11 W.
- Whig Branch** (R); rises in Grant County, in T. 3 N., R. 2 W., flows south 3 miles into Little Platte River (tributary to Mississippi River) in Grant County, in T. 3 N., R. 2 W.
- White Creek** (L); rises in Adams County, in T. 16 N., R. 6 E., flows southwest 9 miles into Wisconsin River in Adams County, in T. 15 N., R. 5 E.
- White River** (L); rises in Bayfield County in Long Lake, in T. 44 N., R. 7 W., flows northeast 39 miles through Ashland County into Bad River (which discharges into Lake Superior) in T. 48 N., R. 3 W.
- White River** (R); rises in Walworth County, in T. 2 N., R. 17 E., flows northeast 12 miles into Sugar Creek which flows into Fox River (tributary to Illinois River which discharges into Mississippi River) in Racine County, in T. 3 N., R. 19 E.
- White River** (L); rises in Waushara County, in T. 19 N., R. 10 E., flows southeast 25 miles into Fox River (which discharges into Green Bay) in Green Lake County, in T. 17 N., R. 12 E.
- Whiteside Branch** (R); rises in Lafayette County, in T. 4 N., R. 1 E., flows southeast 2 miles into Cottage Inn Branch (tributary to Pecatonica River through Bonner Branch, which discharges into Mississippi River through Rock River) in T. 3 N., R. 2 E.
- Whitesides Creek** (R); rises in Lafayette County, in T. 3 N., R. 4 E., flows east 7 miles into Apple Creek (tributary to East Pecatonica River which discharges through Pecatonica River and Rock River into Mississippi River) in Lafayette County, in T. 2 N., R. 5 E.
- Whitewater Creek** (L); rises in Whitewater Lake in Walworth County, in T. 4 N., R. 15 E., flows northwest 6 miles to Whitewater, continues northwest 6 miles into Bark River (tributary to Rock River which discharges into Mississippi River) in Jefferson County, in T. 5 N., R. 15 E.
- Wildcat River** (L); rises in Dodge County, in T. 11 N., R. 17 E., flows southwest 9 miles into Rock River (tributary to Mississippi River) in Dodge County, in T. 10 N., R. 16 E.
- Wiant's Creek.** Same as Fish Creek; Monroe County.
- Willow Branch** (L); rises in Grant County, in T. 4 N., R. 1 W., flows southwest 5 miles into Platte River (tributary to Mississippi River) in T. 4 N., R. 2 W.
- Willow Creek** (L); rises in Richland County, in T. 11 N., R. 2 E., flows generally south 15 miles into Pine River (tributary to Wisconsin River) in Richland County, in T. 9 N., R. 2 E.
- Willow Creek** (L); rises in Sauk County, in T. 11 N., R. 3 E., flows southwest 18 miles into Pine River (tributary to Wisconsin River) in Richland County, in T. 9 N., R. 2 E.
- Willow Creek** (R); rises in Waushara County, in T. 20 N., R. 10 E., flows southeast 12 miles, east 15 miles into Lake Poygan (tributary to Fox River which discharges into Green Bay) in Waushara County, in T. 19 N., R. 13 E.
- Willow Creek, Little** (R); rises in Richland County, in T. 11 N., R. 2 E., flows south 8 miles into Willow Creek (tributary to Pine River which discharges into Wisconsin River) in Richland County, in T. 10 N., R. 2 E.

- Willow River (L);** rises in Sauk County, in T. 11 N., R. 3 E., flows southeast 17 miles into Pine River (tributary to Wisconsin River which discharges into Mississippi River) in Richland County, in T. 9 N., R. 2 E.
- Willow River (L);** rises in St. Croix County, in T. 32 N., R. 15 W., flows southwest 33 miles into Lake St. Croix (tributary to Mississippi River) at Hudson, in St. Croix County, in T. 29 N., R. 20 W.
- Willow River (R);** rises in Price County, in T. 38 N., R. 3 E., flows generally south 9 miles through Willow Lake, in Oneida County, then east 9 miles into Tomahawk River (tributary to Wisconsin River) in T. 37 N., R. 5 E.; drains a number of small lakes.
- Wilson Creek (R);** rises in Columbia County, in T. 11 N., R. 10 E., flows southwest 7 miles into Rowan Creek (tributary to Wisconsin River) in Columbia County, in T. 11 N., R. 9 E.
- Wilson Creek (R);** rises in Grant County, in T. 5 N., R. 2 W., flows south 6 miles into Platte River (tributary to Mississippi River) in Grant County, in T. 4 N., R. 2 W.
- Wilsons Creek (R);** rises in Dunn County, in T. 29 N., R. 14 W., flows southeast 12 miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Dunn County, 1 mile north of Menomonie, in T. 28 N., R. 13 W.
- Wisconsin River (L);** rises in Vilas County, in T. 42 N., R. 11 E., Lake Vieux Desert, flows southwest 57 miles to Rhinelander, southwest 21 miles to Tomahawk Lake, 1½ miles through, south 24 miles to Merrill, south 15 miles to Wausau, south 39 miles to Stevens Point, southwest 20 miles to Grand Rapids, southwest 24 miles, south 41 miles, southeast 15 miles to Portage, southwest 36 miles, west 42 miles, southwest 30 miles into Mississippi River on Crawford and Grant County Line, in T. 6 N., R. 7 W. Gaging stations, near Rhinelander (1905-1914); at Merrill (1902-1914); near Nekoosa (1914); near Necedah (1902-1914); near Muscoda (1902-1903) (1913-1914).
- Wolf Creek (R);** rises in Mudhen Lake in Burnett County, in T. 38 N., R. 17 W., flows northwest 5 miles, southwest 2 miles into Wood River (tributary to St. Croix River which discharges into Mississippi River) in Burnett County, in T. 38 N., R. 18 W.
- Wolf Creek (R);** rises in Lafayette County, in T. 1 N., R. 3 E., flows northeast 7 miles into Pecatonica River (tributary to Rock River which discharges into Mississippi River) in Lafayette County, in T. 1 N., R. 4 E.
- Wolf Creek (R);** rises in Marinette County, in T. 36 N., R. 20 E., flows southeast 9 miles into Menominee River (which discharges into Green Bay) in Marinette County, in T. 35 N., R. 21 E.
- Wolf River (L);** rises in Forest County, in T. 38 N., R. 13 E., flows southwest 6 miles into Pine Lake, continues southwest 16 miles, southeast 47 miles, south 28 miles to Shawano, continues south 33 miles, generally southwest 12 miles, south 18 miles into Lake Poygan, and 5 miles through into Fox River (which discharges into Green Bay) in Winnebago County, in T. 19 N., R. 15 E. Gaging stations, near Keshena (1907-1909) (1911-1914); near Shawano (1906-1907); at New London (1896-1913); at Northport (1905); at Winneconne (1902-1903).



**Wolf River (R);** rises in Taylor County, in T. 30 N., R. 4 W., flows south 15½ miles into South Fork Eau Claire River (tributary to Eau Claire River which discharges into Mississippi River through Chippewa River) in Eau Claire County, in T. 27 N., R. 5 W.

**Wolf River, Little (R);** rises in Marathon County, in T. 26 N., R. 10 E., flows southeast 27 miles, south 20 miles into Wolf River (tributary to Fox River which discharges into Green Bay) in Waupaca County, in T. 22 N., R. 14 E. Gaging station at Royalton (1914).

**Wolf River, Little, South Branch (R);** rises in Portage County, in T. 24 N., R. 10 E., flows southeast 23 miles into Little Wolf River (tributary to Wolf River which discharges into Green Bay through Fox River) in Waupaca County, in T. 22 N., R. 13 E.

**Wolf River, West Branch (R);** rises in Langlade County, in T. 31 N., R. 12 E., flows southeast 30 miles into Wolf River (tributary to Fox River which discharges into Green Bay) in Shawano County, in T. 28 N., R. 15 E. Gaging station at Neopit (1911-1914).

**Wood Branch (R);** rises in Lafayette County, in T. 3 N., R. 2 E., flows east 8 miles into Pecatonica River (tributary to Rock River which discharges into Mississippi River) in Lafayette County, in T. 3 N., R. 3 E.

**Wood Creek (L);** rises in Polk County, in T. 36 N., R. 18 W., flows southwest 9 miles into St. Croix River (tributary to Mississippi River) in Polk County, in T. 35 N., R. 19 W.

**Wood River (L);** rises in Polk County, in T. 36 N., R. 16 W., flows northwest about 10 miles, south and west through Little Wood and Wood Lakes, northwest 4 miles, then south of west 6 miles into St. Croix River (tributary to Mississippi River) in Burnett County, in T. 38 N., R. 20 W.

**Wood Creek (L);** rises in Florence County, in T. 38 N., R. 15 E., flows north 2 miles, then east about 10 miles into Popple River (tributary to Pine River which discharges into Green Bay through Menominee River) in T. 39 N., R. 17 E.

**Yahara (Catfish) River (R);** rises in Dane County, in T. 9 N., R. 10 E., flows south 16 miles into Lake Mendota, continues southeast 4½ miles through Lake Mendota, 1 miles into Lake Monona 1 mile north of Madison, continues southeast 4½ miles into Lake Waubesa, 4 miles into Mud Lake, ½ mile through, 2 miles into Lake Kegonsa, 2 miles through, southeast 20 miles into Rock River (tributary to Mississippi River) in Rock County, in T. 4 N., R. 12 E. Gaging station at Lake Mendota (1902-1903); near Madison (1902-1903).

**Yellow River (R);** rises in Barron County, in T. 36 N., R. 14 W., flows southeast 25½ miles into Red Cedar River (tributary to Chippewa River which discharges into Mississippi River) in Barron County, in T. 33 N., R. 11 W.

**Yellow River (R);** rises in Clark County, in T. 27 N., R. 1 E., flows southeast 26 miles, south 53 miles into Wisconsin River in Juneau County, in T. 17 N., R. 4 E.

**Yellow River (L);** rises in Taylor County, in T. 32 N., R. 1 W., flows northwest 6 miles, then southwest 66 miles into Chippewa River (tributary to Mississippi River) in Chippewa County, in T. 29 N., R. 8 W.

**Yellow River (L)**; rises in Washburn County, in T. 39 N., R. 11 W., flows west through Spooner Lake and Rice Lake 33 miles, northwest 15 miles through Yellow Lake into St. Croix River (tributary to Mississippi River) in Burnett County, in T. 41 N., R. 16 W. Gaging station near Webster (1914).

**Yellow River, Little (R)**; rises in Juneau County, in T. 20 N., R. 3 E., flows generally south 29 miles into Yellow River (tributary to Wisconsin River) in Juneau County, in T. 17 N., R. 4 E.

**Yellowstone River (R)**; rises in Iowa County, in T. 5 N., R. 4 E., flows southeast 13 miles into East Branch Pecatonica River (tributary to Pecatonica River which discharges into Mississippi River through Rock River) in Lafayette County, in T. 3 N., R. 5 E.

**Young Branch (R)**; rises in Grant County, in T. 4 N., R. 1 W., flows south  $3\frac{1}{2}$  miles into Little Platte River (tributary to Mississippi River) in Grant County, in T. 3 N., R. 1 W.

APPENDIX

(Form used for Investigation of Dams)

ENGINEERING DEPARTMENT  
Railroad Commission of Wisconsin

Sheet 1  
Report by \_\_\_\_\_

Date\_\_\_\_\_

Water-power Development Investigation\_\_\_\_\_Drainage Basin.

IDENTIFICATION

Name of stream on which power is located\_\_\_\_\_  
County\_\_\_\_\_Town\_\_\_\_\_  
\_\_\_\_\_Sec.\_\_\_\_\_T.\_\_\_\_\_R.\_\_\_\_\_  
Distance to\_\_\_\_\_(nearest P. O.)\_\_\_\_\_Miles.  
Name of next tributary stream above\_\_\_\_\_  
Name of next tributary stream below\_\_\_\_\_  
Local name of dam\_\_\_\_\_  
Name of mill or power station\_\_\_\_\_  
Name of owner\_\_\_\_\_Address\_\_\_\_\_  
Name of operator\_\_\_\_\_Address\_\_\_\_\_  
Is dam still in existence\_\_\_\_\_

HISTORICAL

Name of original grantee\_\_\_\_\_  
Date of original franchise or permit\_\_\_\_\_  
Date and conditions of renewal\_\_\_\_\_  
Duration of original grant\_\_\_\_\_  
Where recorded\_\_\_\_\_Chapter\_\_\_\_\_  
Purpose of grant: (a) Protection of navigation\_\_\_\_\_  
Note — strike (b) Log driving\_\_\_\_\_  
out purposes (c) Power purposes\_\_\_\_\_  
not obtaining. (d) Mill purposes\_\_\_\_\_  
(e) \_\_\_\_\_  
Year dam was first constructed\_\_\_\_\_  
Type of original dam: (a) Concrete\_\_\_\_\_  
(b) Timber\_\_\_\_\_  
(c) Earthen\_\_\_\_\_

(Form used for Investigation of Dams)

Form WP1

Sheet 2

Report by \_\_\_\_\_  
Date\_\_\_\_\_

Re\_\_\_\_\_Dam on\_\_\_\_\_at or near\_\_\_\_\_

DESCRIPTIVE (GENERAL)

Has dam been rebuilt\_\_\_\_\_When\_\_\_\_\_

Type of present dam: (a) Concrete\_\_\_\_\_

(b) Timber\_\_\_\_\_

(c) Earthen\_\_\_\_\_

Present purpose of dam\_\_\_\_\_

If formerly used for other purposes give details with date\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

General topographic and geological conditions at site\_\_\_\_\_

\_\_\_\_\_

Character of stream banks\_\_\_\_\_

Character of stream bottom\_\_\_\_\_

CONSTRUCTIVE FEATURES

*Note*—If plans are available, arrange to have a copy prepared for the Commission’s files, otherwise make on blank sheet provided for the purpose, general sketch of installation indicating dams, gates, dikes, forebay, wheel pit and all other constructive features with general dimensions. Show typical cross-sections of dam.

Dam: Type\_\_\_\_\_

Foundations: (a) Piles\_\_\_\_\_Kind\_\_\_\_\_

(Describe) (b) Grillage\_\_\_\_\_Kind\_\_\_\_\_

(c) Stone masonry\_\_\_\_\_Kind\_\_\_\_\_

(d) Concrete\_\_\_\_\_Kind\_\_\_\_\_

Depth below river bed\_\_\_\_\_

Do foundations go to rock or impervious stratum\_\_\_\_\_

\_\_\_\_\_

Anchorage of dam or retaining walls to dike or stream banks (describe)\_\_\_\_\_

\_\_\_\_\_

(Form used for Investigation of Dams)

Form WP1

Sheet 3

Report by \_\_\_\_\_

Date \_\_\_\_\_

Re \_\_\_\_\_ Dam on \_\_\_\_\_ at or near \_\_\_\_\_

CONSTRUCTIVE FEATURES—(Continued)

Materials in dam proper \_\_\_\_\_ Materials in walls \_\_\_\_\_

Materials in dike or embankment \_\_\_\_\_

Methods used in construction \_\_\_\_\_

General condition of masonry and concrete \_\_\_\_\_

General condition of timber construction \_\_\_\_\_

Seepage (describe) \_\_\_\_\_

Height of natural stream banks at junction with dam, retaining wall or dike \_\_\_\_\_

Provisions for resisting ice pressure \_\_\_\_\_

Provision against scouring below dam \_\_\_\_\_

Protection for gates against clogging by floating debris \_\_\_\_\_

Booms: Kind \_\_\_\_\_ Anchorage \_\_\_\_\_

Gates: Waste-Number \_\_\_\_\_ Kind \_\_\_\_\_ Dimensions \_\_\_\_\_

Power-Number \_\_\_\_\_ Kind \_\_\_\_\_ Dimensions \_\_\_\_\_

Operating mechanism—waste gates \_\_\_\_\_

Operating mechanism—power gates \_\_\_\_\_

General condition of gates \_\_\_\_\_

Description of approach to gates \_\_\_\_\_

Fishways: Kind \_\_\_\_\_ Size \_\_\_\_\_

Locks: Kind \_\_\_\_\_ Size \_\_\_\_\_

(Form used for Investigation of Dams)

Form WP1

Sheet 4

Report by \_\_\_\_\_

Date\_\_\_\_\_

Re\_\_\_\_\_Dam on\_\_\_\_\_at or near\_\_\_\_\_

CONSTRUCTIVE FEATURES—(Continued)

Log chutes: Kind\_\_\_\_\_Size\_\_\_\_\_

Ice chutes: Kind\_\_\_\_\_Size\_\_\_\_\_

Spillways: Length\_\_\_\_\_

Vertical distance from top of spillway to low point in retaining wall  
or dike\_\_\_\_\_

Flashboards: Height\_\_\_\_\_Kind\_\_\_\_\_

Pond: Kind of banks\_\_\_\_\_

Condition of banks\_\_\_\_\_

Maximum depth\_\_\_\_\_

Approximate area ordinary stage of water\_\_\_\_\_

Extent of back water\_\_\_\_\_

Canal: Material\_\_\_\_\_Dimensions\_\_\_\_\_Length\_\_\_\_\_

Flume: Material\_\_\_\_\_Dimensions\_\_\_\_\_Length\_\_\_\_\_

Pipe: Material\_\_\_\_\_Dimensions\_\_\_\_\_Length\_\_\_\_\_

Wheel-pit: Material\_\_\_\_\_Dimensions\_\_\_\_\_

OPERATIVE FEATURES

Purpose of operation at present\_\_\_\_\_

Total operating head, pond to tail race without flashboards:

(a) Low water\_\_\_\_\_ (b) Ordinary water\_\_\_\_\_ (c) High water\_\_\_\_\_

(Form used for Investigation of Dams)

Form WP1

Sheet 5

Report by \_\_\_\_\_

Date\_\_\_\_\_

Re\_\_\_\_\_Dam on\_\_\_\_\_at or near\_\_\_\_\_

OPERATIVE FEATURES—(Continued)

Water wheels: Give for each wheel the following: (1) Kind; (2) Type; (3) Maker; (4) Size—*inches*; (5) Usual gate opening; (6) Kind of gate; (7) Rated power at full gate and head; (8) Kind of draft tube; (9) Date installed; (10) General condition.

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Water wheel governors; state the following:  
(1) Kind; (2) Type; (3) Maker; (4) Date installed; (5) General condition.  
(*Note*—Get all name plate data.)

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Generators: Give for each unit (1) Make; (2) Type; (3) Kw. capacity; (4) R. P. M.; (5) Phase; (6) Voltage; (7) Amperes; (8) Belted or direct connected; (9) Date installed; (10) General condition.  
(*Note*—Get all name plate data.)

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(Form used for Investigation of Dams)

Form WP1

Sheet 6

Reported by

Date

Re Dam on at or near

OPERATIVE FEATURES—(Concluded)

Transmission lines:

From To Circuit Miles

Phase Voltage Wire Poles

From To Circuit Miles

Phase Voltage Wire Poles

From To Circuit Miles

Phase Voltage Wire Poles

Auxiliary steam plant: Location

Owner Address

Equipment

Percentage of running time that steam power is used

Average number of days per year that water power plant operates

Hours of operation: From To

Hours per day Days per week

Are gate openings recorded? Turbine performances?

Are switchboard readings recorded?

(Note—Sample of station log sheet should be obtained if possible.)

WATER RECORDS

Kind of gages How often read

Maximum known reading Date

Minimum known reading Date

Have records been kept of stream flow? How measured?

For what portion of the year is water supply inadequate?

For what part of year is supply excessive and disabling?



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**REPORT OF THE**  
**RAILROAD COMMISSION**  
**OF**  
**WISCONSIN**  
**TO THE**  
**LEGISLATURE**  
**ON**  
**WATER POWERS**

**Made Pursuant to Chapter 755 of the Laws of 1913.**

**MADISON, WISCONSIN**  
**1915**

